

THE BULLETIN

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U of T Wins All Three Killams

THREE SCIENTISTS AT U OF T have won this year's Killam memorial prizes, an award regarded by some as Canada's equivalent to the Nobel Prize.

Cited for their ground-breaking research, the winners are University Professor André Salama of electrical and computer engineering and University Professors Emeriti Adrian Brook of chemistry and Endel Tulving of psychology.

The contributions of the three have been remarkable, said President Robert Prichard in a prepared statement. "They are three of the reasons the University is an internationally significant research institution, and it is with great pride that I congratulate them on this outstanding and well-deserved honour."

It is the first time an institution has won all prizes awarded in one year, said Mel MacLeod, head of the Killam Program of the Canada Council. Two prizes were awarded to McMaster University in 1987 and two to the University of Calgary in 1991. This year's prizes will be presented by Jacques Lefebvre, acting chair of the Canada Council, at a ceremony at Hart House April 5.

The \$50,000 prize, named for Izaak Walton Killam (1885-1955), was awarded for the first time in 1981. It recognizes the life-time achievements of outstanding scientists to the advancement of knowledge in three areas: natural sciences, health sciences and engineering.

See Killam profiles page 3.

Q & A

HOLDING THE LINE

Freeze in transfer payments "a victory"

On March 23 Minister of Finance Floyd Laughren announced the government will not make cuts this year to the \$15 billion in transfer payments it gives annually to municipalities, hospitals and colleges and universities. On the same day Minister of Education & Training Dave Cooke announced a 20 percent tuition fee increase over two years. President Robert Prichard spoke to The Bulletin following the announcements at Queen's Park.

BULLETIN: The government says it will maintain the level of transfer payments to universities as previously indicated. What do you think of this news?

PRICHARD: On balance I'm both relieved and pleased by the announcement. Given the very severe fiscal constraints facing the government, it took an act of considerable courage by the minister of finance and his colleagues to reaffirm their commitment that there would be no further decrease in the transfer payments. In addition it took political courage to increase tuition, given the government's previous reservations about tuition fee income as a source of university finances. I'm also very pleased that the government has made so clear its commitment to pursuing an income contingent repayment plan for student aid in partnership with the federal government.

BULLETIN: How will the announcements affect U of T's budget process?

PRICHARD: The effect of these announcements for the University are

on balance positive. The financial implications are consistent with the six-year budget plan we proposed this spring and are consistent with the provost's projection in the white paper on planning. As a result we can continue with full momentum and a much higher degree of confidence now that the financial framework for that planning has stabilized. We have worked closely with the government, urging that they stay the course financially to provide the stability we need to plan for a stronger University in the future. The [transfer] announcement is markedly better than what the government had in mind three weeks ago. On the other hand, it's quite a comment on the 1990s that a freeze in transfer payments should be seen as a victory. Given the fiscal realities of the first half of the 1990s, however, holding the line is a victory.

BULLETIN: The government says its transfer announcement will preserve public sector jobs throughout the province. Will it preserve jobs at U of T?

PRICHARD: The announcement will allow us to continue with the six-year budget plan which involves the net contraction in the University's resources arising principally from the permanent withdrawal in 1996 of the funds temporarily withdrawn by the social contract. At the end of six years, the number of University employees is likely to be reduced compared with today but the rate of contraction is such that attrition,

See HOLDING: Page 5 ~

Talking Trade



ROB ALLEN

The future of global trade was the hot topic of conversation at the Koffler Institute for Pharmacy Management March 21 during the visit of Peter Sutherland, director general of the General Agreement on Tariffs & Trade. Before giving his lecture, he chatted with MP Roy MacLaren, minister for international trade (left), President Robert Prichard and Premier Bob Rae (right front). The Centre for International Studies hosted the event.

Announcement Surprises Some

Province allows universities to increase tuition fees

BY SUZANNE SOTO

MEMBERS OF THE HIGHER education sector breathed a collective sigh of relief when the provincial government announced on March 23 it will not reduce their funding further in 1994-95.

Last spring the province cut \$255 million from universities and colleges through payroll reductions negotiated in the social contract and an expenditure control plan. In November the government announced that another \$34 million would be removed from the institutions' base operating grants in 1994-95.

Transfer payments from the province in 1994-95 amount to \$1.8 billion to universities and \$800 million to colleges, said Alison Hegarty, a senior policy analyst in the Ministry of Education & Training.

The government is also allowing the institutions to increase tuition fees by 10 percent each year for the next two years. This is an effort to provide the necessary funds to make more spaces available, said Dave Cooke, minister of education and training.

For universities, the increase could mean an additional \$20 million in revenue in 1994-95, said Peter George, president of the Council of Ontario Universities (COU). "We had been led to believe there would be additional transfer cuts, so the fact that they have been limited to the ones announced last year is a really important decision by the government."

COU, he added, would have preferred higher tuition fee increases. The council, which represents the province's 20 universities, had rec-

ommended a 50 percent hike, coupled with the introduction of an income-contingent loan plan allowing students to pay back student loans based on post-graduation earnings. Still the increase is welcome. "It reflects a compromise within the government whose official position has historically been zero tuition."

U of T has yet to determine the precise impact of the government's transfer and tuition fee announcements. At this point it appears the University's long-range budget guidelines will not be significantly

affected, said Dan Lang, assistant vice-president (planning).

The University still faces a base budget cut of about \$4.4 million in 1994-95 arising from the government's announcement in November that \$22 million would be removed from university budgets. Social contract cuts will be about \$18 million, the same amount as in 1993-94.

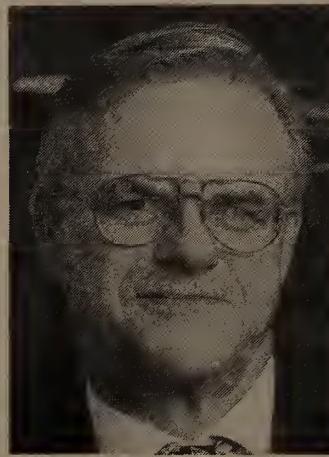
Speaking outside the legislature, President Robert Prichard said that given the government's financial woes

~ See ANNOUNCEMENT: Page 5~

Boulton Acclaimed Faculty President

PROFESSOR PETER BOULTON OF the Department of Electrical & Computer Engineering has been acclaimed president of the U of T Faculty Association (UTFA).

He will replace Professor Bill Graham of philosophy at Scarborough



Peter Boulton

who has been president for the past two years. Boulton's one-year term as UTFA president begins July 1.

Boulton, 50, has been actively involved with UTFA for many years. He has served the association as a member of council and of the salaries, benefits and pensions committee, as chair of the University and external affairs committee and as treasurer. As vice-president of salaries, benefits and pensions, he was UTFA's chief negotiator during last year's social contract talks with the provincial government.

A faculty member since 1966, Boulton is currently associate chair of his department. He holds BSc, MSc and PhD degrees, all from U of T.

In an interview Boulton said he expects his chief task as UTFA's

~ See BOULTON: Page 2~

IN BRIEF



Offensive graffiti appears on buildings

U OF T POLICE ARE ENCOURAGING FACULTY, STAFF AND STUDENTS TO report incidents of racist, sexist or homophobic graffiti on campus. Sgt. Len Paris said such action will ensure the offensive material is quickly removed. Police, he said, have noticed a recent increase in this type of hate crime on University grounds. The Medical Sciences Building and the Faculty of Education are two of several locations where racist and homophobic graffiti "with a strong religious content" has been sighted, he said. The incidents have been reported to the Metro Toronto Police Hate Crimes Unit which keeps track of them and whenever possible investigates their possible sources, he added.

Restaurant open after fire

HART HOUSE'S GALLERY CLUB RESTAURANT IS BACK IN BUSINESS following a Feb. 27 fire that damaged its cash register desk. Judith Steiner, Hart House's facility manager, said the restaurant is serving customers in its adjacent lounge until the burned area is repaired. The fire — caused by old and faulty wiring — and efforts to extinguish it left smoke and water damage, Steiner said. The actual cost of the losses has yet to be determined. No one was in the restaurant that overlooks the Great Hall when the fire began at around 9:30 p.m. Quick action by Hart House staff and U of T Police constable Andrew Stafford probably prevented more serious damage, she said.

Franklin receives honorary degree

UNIVERSITY PROFESSOR EMERITUS URSULA FRANKLIN OF THE Department of Metallurgy & Materials Science has received an honorary degree from the British Columbia Open Learning Agency in British Columbia. "She has been a shining example to others in the variety of her activities and her tenacity in pursuing the issues she sees as important," Ian Mugridge, vice-president of the agency's university programs, said in a statement. Franklin, who retired in 1989, was the first woman hired as a professor by metallurgy and materials science and the first woman to receive the honorary title of University Professor. Calling her a "role model for women in science," Mugridge praised Franklin's work on behalf of equality for women and international peace. The Open Learning Agency is a public agency that brings educational and training opportunities directly into homes and workplaces.

Mandelis named society fellow

PROFESSOR ANDREAS MANDELIS, HEAD OF THE PHOTOTHERMAL AND optoelectronic diagnostics laboratory in the Departments of Mechanical and Electrical & Computer Engineering, has been elected a fellow of the American Physical Society. Mandelis is cited for his contributions to photothermal science. He has designed, for example, a laser technique that measures the sub-surface defects of a solid material — known as thermophysical depth-profilometric non-destructive evaluation. He has also developed a safety device that uses photothermal signals rather than electrical detection to indicate the presence of hydrogen.

Friedmann appointed to food council

PROFESSOR HARRIET FRIEDMANN OF THE DEPARTMENT OF SOCIOLOGY has been appointed to the Toronto Board of Health's Food Policy Council. She will serve as a food systems analyst to the council, a panel of citizens and experts studying issues related to food production and distribution including hunger in Toronto and the impact of food production on Ontario's environment. The Board of Health, to which the Food Policy Council reports, makes recommendations about health policy to Toronto City Council.

Robinson elected honorary president

PROFESSOR TOM ROBINSON OF THE DEPARTMENT OF PHILOSOPHY HAS been elected honorary president of the International Association for Greek Philosophy. Robinson was cited "for his contribution to research, for his unflagging interest in the promotion of Greek philosophy and culture and for furthering the aims of the association." The association selected Robinson at its general assembly in Athens in December.

Royal Society Elects Four

THE ROYAL SOCIETY OF LONDON has elected four new fellows from U of T, increasing the number of fellows at U of T to 12.

The four are Professors David MacLennan of the Banting & Best Department of Medical Research, Anthony Pawson of the Department of Molecular & Medical Genetics, Tak Mak of the Departments of Medical Biophysics and Immunology and Scott Tremaine of the Departments of Physics and Astronomy and director of the Canadian Institute for Theoretical Astrophysics. Professor Julian Edmund Davies, who teaches microbiology at UBC, was also named.

It is not unusual for four or more fellows to be elected in one year from the Universities of Oxford, Cambridge or London, said Sheila Edwards, librarian of The Royal Society. But it is relatively unusual for four to be elected from other universities, she noted.

This year seven fellows were elected at London and five each at Cambridge and Oxford. It may be the first time in U of T's history that four fellows have been named to the

society in one year, said University Professor Emeritus Boris Stoicheff of the Department of Physics, who was elected in 1975.

The Royal Society of London for Improving Natural Knowledge was founded in 1662. It is the oldest scientific society in Great Britain and one of the oldest in Europe. Every year 40 new fellows are elected, sustaining a membership of about 1,000. At present there are 45 in Canada. Fellows are chosen because they have carried out original research and have made a new and conspicuous contribution to science, said Edwards.

MacLennan, 56, has identified many of the proteins involved in the uptake, storage and release of calcium. He has also developed a widely used test to diagnose malignant hyperthermia in swine. MacLennan received his PhD in biology from Purdue University in Indiana in 1963. He joined U of T in 1969 and was appointed University Professor in 1993.

Pawson, 41, is known for his work on cancer genes. A British citizen, he received his PhD in molecular biology from the University of London

in 1976. He joined U of T and the Mount Sinai Hospital research institute in 1985. This year he won a Gairdner Foundation International Award. He holds the Apotex Chair in Molecular Oncology at Mount Sinai.

The focus of Mak's work is understanding how the body recognizes diseases. Mak, 47, completed his PhD in biochemistry at the University of Alberta in 1971. Three years later he joined the Ontario Cancer Institute as a senior scientist and became a member of the Department of Medical Biophysics. He is director of the Amgen Research Institute.

Tremaine is working on questions about the configuration of the solar system. In 1986 his theory that Uranus had more moons than commonly believed proved true when the Voyager Two flew by the planet. Tremaine, 43, received his PhD from Princeton University in 1975 and joined U of T in 1985. In 1989 he was a co-winner of the Steacie prize and a couple of weeks ago he won a 1994 Killam fellowship.

Policy on Layoffs Approved

WITH THE APPROVAL OF THE staff association, U of T has adopted a new policy on layoffs caused by technological change, departmental reorganization or budget cuts.

The University and the U of T Staff Association (UTSA) have agreed that administrative personnel affected by job cuts must be consulted beforehand. As a result staff will have a chance to work out alternatives such as early retirement, job sharing or part-time employment.

In deciding which staff to let go, U of T must now also take into account workers' skills, competency, efficiency and ability to train for other duties at the University. In a case where staff are about equal in these qualities, those with most years of

service are given priority.

The policy applies to all non-union administrative employees who hold continuing full- or part-time appointments and are paid from the operating budget or through grants. It does not cover retired staff who are reappointed, employees hired for a specific term, those on probation or senior managers.

Professor Michael Finlayson, vice-president (human resources), said the new policy is the first significant result of negotiations with UTSA to update the University's personnel policy. The negotiations are one outcome of a controversial layoff of 79 staff at the Faculty of Medicine in 1991, conducted without the consultation that was part of University policy. The staff were quickly reinstated.

"I believe the wording that we have in the new policy is a good deal clearer and I think the clarity is in the interest of both the University and of the staff association," Finlayson said.

UTSA president John Malcolm said the arrangement represents a compromise, one the membership can live with. He said he wanted better protection for people with long years of service, however, it was not part of the agreement. "We got some improvements but not everything we wanted. But that's the way it goes."

However, Malcolm said that since 1991 the "culture" of the University has changed and he does not foresee a major layoff without warning again. "These days it would be quite a big deal around the University if something like this happened."

Finlayson said the administration also sees the agreement as one that meets both parties halfway. "It may well be that it isn't exactly the document that we would have written if we'd had the power unilaterally to write policies. It is the result of negotiation."

Gradually UTSA and the University plan to rewrite a thick stack of U of T policies for administrative staff that both say are out of date.

Boulton Acclaimed

Continued from Page 1 ~ president will be to deal with the "fallout" of Planning for 2000: A Provostial White Paper on University Objectives. The extensive academic restructuring plan, unveiled last month by Provost Adel Sedra, contains a number of suggestions that worry him and the association, he said. The two principal areas of concern are recommendations on faculty research and study leaves and the administration of merit increases for professors.

"Some things in the white paper do in fact impinge on the Memorandum of Agreement between UTFA and the University," he said. The memorandum deals with such issues as salaries and benefits, academic freedom and responsibilities and workloads and working conditions.

Another troubling aspect of the white paper is its "basic silence" on the issue of job security for tutors and senior tutors, he said. "The way

the white paper suggests courses should be taught implies that there is no place for tutors at this university. This is causing them to feel extremely threatened."

The provostial document and its possible implications for faculty will be discussed at UTFA's annual general meeting on April 14.

UNIVERSITY ~ OF ~ TORONTO

THE BULLETIN

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Tulving: 'Coherence of Thought, Creative, Ingenious Experiments'

BY KARINA DAHLIN

UNIVERSITY PROFESSOR Emeritus Endel Tulving of the Department of Psychology is one of the world's foremost experimental psychologists and cognitive scientists, says the Canada Council's citation for his Killam prize.

Human memory is Tulving's specialty and for almost 20 years he has tried to determine how many different kinds of memory there are and the best way to classify them. His scientific contributions, says the Canada Council, are marked by "an unusual coherence of thought, supplemented by creative and ingenious experiments."

When Tulving turned 65 two years ago, rules dictated that he retire. But he had no intention of following the rules and is as active as ever. He supervises one graduate student at U of T, collaborates with a number of others in the department and holds the Tanenbaum Chair in Cognitive Neuroscience at the Rotman Research Institute of Baycrest Centre where he works with a number of post-doctoral fellows. Three months a year he teaches at the University of California at Davis as visiting professor of psychology and neuroscience.

In the course of writing his book *Elements of Episodic Memory* published in 1983, Tulving found he needed a word that could help to describe what he was doing. He asked a linguist to coin one and has since started a campaign to add it to the *Oxford English Dictionary*.



"Lathomenon" is an antonym to "phenomenon." It's derived from Greek, as all good words are," he said in an interview. "It's a beautiful opposite of phenomenon because it takes existence for granted. When something exists and is apparent, it is a phenomenon. When it exists but isn't apparent, it's a lathomenon."

Tulving was born in Estonia in 1927, the son of a judge. He was a good student but did not particularly enjoy memorizing facts. "Everything was dull and uninteresting. Subjects like chemistry and physics seemed completely finished. You just had to learn the equation, nod your head and say yes." Then he took a course in psychology and suddenly his interest was sparked. Psychology is a completely unfinished enterprise and raised all kinds of questions. "So I decided to become a psychologist," he recalled. He earned his doctorate from Harvard University in 1957.

During his career Tulving has received a long list of honours and awards. He has honorary doctorates from four universities, is a fellow of the Royal Society of London and, in 1983, received the American Psychological Association's award for distinguished scientific contributions. The association described him as "an engaging colleague and a charismatic teacher who delights in puzzles and paradoxes [and] has influenced scores of scientists both in and beyond North America."

A STUDENT'S PERSPECTIVE

TUESDAY, MARCH 15 WAS A SPECIAL day for Reza Habib. At 8:30 a.m. the 24-year-old psychology student stood at the entrance of the Sigmund Samuel Library, anxiously waiting for the doors to open so he could get his hands on the March 15 issue of the *Proceedings of the National Academy of Sciences*.

The journal carried an article co-authored by Habib. However, to his great disappointment, the journal had not arrived yet.

Habib had good reason to be excited. University Professor Emeritus Endel Tulving, the main author of the article, said Habib may go down in history as one of the most famous undergraduate students at U of T because his first publication appeared in such a prestigious journal. "That is a rather rare event," Tulving noted.

Habib says Tulving is a forerunner in his field. In the early 1960s he was a leader in the field of verbal learning. Then he was in the vanguard of cognitive psychology. In 1982 he published one of the papers that led to the focus on priming and implicit memory. And now he is the main author of a paper that will probably be influential in the emerging field of cognitive neuroscience.

Proceedings describes studies carried out by Tulving and co-investigators at the Clarke Institute of Psychiatry, the Rotman Research Institute of Baycrest Centre and U of T. The investigators wanted to view what happens in the brain when people store, or encode, and retrieve memories. However, they did not know exactly what to expect and did not set out to prove or disprove any theories.

The team used positron emission tomog-

raphy (PET) scans to show which parts of the brain are involved in memory. Habib's role was to find and conduct the tests on 12 subjects. On the first day they listened to 120 simple sentences twice. Next day they returned and were given an injection of radioactive water and a PET scan while listening to the old and new sentences. Results showed that when old information was retrieved, the blood flow was strongest in the prefrontal cortex on the right side of the brain; when new information was encoded, the activity was most pronounced on the left side.

Then the scientists decided to conduct a literature review to compare their findings to those of other published studies. They discovered that other laboratories had obtained similar results but had not paid attention to them. With 16 studies supporting their case, Tulving and his group proposed a theory, the hemispheric encoding-retrieval asymmetry (HERA) model.

The model already has its detractors. In a commentary published alongside the three articles in *Proceedings*, Adina Roskies of the Salk Institute in La Jolla, California, warns that the crucial activity — what happens in the brain when people remember — sought by Tulving et al may be taking place elsewhere in the brain.

But Tulving and his team are already proceeding with other tests of the model. And Habib, now a master's student and Tulving's only graduate student, continues to participate and learn. With a supervisor like Tulving, he sees no reason to leave. He knows he is on the cutting edge.

Brook: Knowledge for Knowledge's Sake

BY ALFRED HOLDEN



UNIVERSITY PROFESSOR Emeritus Adrian Brook, an organic chemist, prefers the laboratory to the spotlight. He would rather conduct an experiment than bask in acclaim.

But now a Killam prize has brought the public eye right to his office. And Brook, a private man, is accepting the attention with grace. "To have one's work recognized in this way," he said, "is really something rather special."

The citation from the Canada Council makes clear that Brook's work, though unknown to many Canadians, deserves wide recognition. "Adrian Brook is one of the most outstanding scientists Canada has produced in the past 40 years," the citation states. "He has stimulated and guided researchers everywhere, and changed the way researchers think about the discipline of organic chemistry."

Most of Brook's work has been in a relatively obscure branch of his field, organosilicon chemistry. This deals with the synthesis and properties of compounds made by replacing carbon atoms with silicon, an element in the same atomic family as carbon.

It sounds abstract to the uninitiated but in the world of chemistry, Brook's efforts have been the building blocks of significant new knowledge. His research results include using silicon to insulate one portion of a compound from another, so a chemical reaction can be done in one part while another area is left intact. Industrial applications have been found for

carbon-silicon compounds but Brook is adamant that his quest is knowledge for knowledge's sake and not better ways to produce widgets. He worries that basic, pure research is an endangered species — tough economic times have put pressure on researchers to justify their work in more visible, practical ways.

"I think it [the pressure] is a quite proper and reasonable expectation up to a point,

but if I had been under that mandate, I would never have been able to do the research I have done because I cannot predict what is going to come from my research," Brook said. "I'm creating knowledge and it requires another generation to recognize how that knowledge can be applied to some practical problem. But if you don't have the basic knowledge first, you can't plan."

Major advances attributed to Brook include the synthesis of a stable silicon-carbon compound with a double bond between the two elements. Such a compound had been formed previously but at about 500 degrees Celsius — the high temperature made it difficult to investigate its properties. For successfully creating a more stable compound that could be studied at room temperature, and for other studies, Brook was awarded the Chemical Institute of Canada medal in 1985.

Brook received his PhD from U of T in 1950. He became a full professor in 1953 and served as chair of the Department of Chemistry from 1969 to 1974. He chaired the University's research board from 1976 to 1981.

Salama: Bring Teaching, Research, Industry Together



YOU MIGHT THINK OF IT as a supermarket, where many different products are on display in one place for many different customers.

But in the research world of University Professor André Salama, the supermarket is Micronet, a unique pooling of information. And the products are ideas — concepts for smaller, more powerful microchips; research into alternative materials to boost the performance of transistors; and designs for silicon wafers that make possible portable personal communications systems.

These are all technologies that have emerged through Micronet, the federal network of centres of excellence in which Salama is program leader and U of T, a major participant. And in various forms, such technologies are being transferred to the marketplace. The network's industrial participants, including Northern Telecom, Bell Northern Research, Mitel, NovAtel, Gennum, Canadian Marconi and PMC-Sierra, use Micronet as a source of ideas developed by a wide range of researchers and from which they can choose what is most appropriate to their needs.

In the citation for Salama's Killam prize, he was praised for his commitment to bringing teaching, the findings of university research and the needs of industry together. "He has

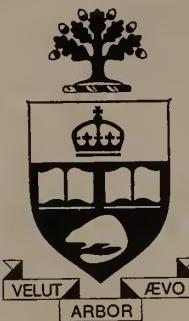
recognized the fundamental importance of interaction with industry and, in conjunction with his graduate students, has ensured that significant contributions to the design, development and implementation of novel microelectronic devices and integrated circuits were transferred to industry," the citation says.

It also praises Salama's efforts in educating and training a steady supply of outstanding researchers. Salama has personally supervised 15 doctoral and 47 master's students at U of T. Several are now in senior managerial positions in industry or in professional positions in Canada, the US, Ireland, France, Hong Kong and China.

Salama himself is enthusiastic, soft spoken and anxious to share credit along with technology. Research involves considerable interaction with others involved in similar work, he said. Micronet, for instance, "has involved a lot of people — from industry and the University."

Salama received his PhD in electrical engineering from UBC in 1966. He joined U of T's Department of Electrical Engineering a year later. In 1984 he was appointed founding chair of the Canadian Microelectronics Corp. that promotes university, private sector and government collaboration.

FOR A STRONGER U OF T



For the past 18 months, the Rethinking Administration program has been working to find ways to improve the way the University is run. We're doing this first and foremost to ensure that administrative activity works to support the University's academic mission in the most effective way possible. It is also aimed at doing this as efficiently as possible.

This is not simply a cost-cutting exercise, but there is no doubt that the program will enable us to respond more strategically in a period of increasingly scarce resources.

Many very useful efforts to change administrative practices have been implemented in discrete units of the University, both centrally and divisionally, over recent years, and the Rethinking Administration program has been designed to build on these initiatives. Projects pursued under the Rethinking program are focused on administrative processes which cut across individual divisions. Achieving a streamlining of many of these processes requires an integrated approach of reviewing the activities in various units simultaneously. Rethinking Administration has focused on these cross-divisional activities. Two major initiatives have now reached the comment and discussion stage. What follows are excerpts from draft reports from employee teams who have spent the last three months examining all aspects of two

University-wide processes: grants & contracts and purchasing & payments.

These teams are proposing streamlined processes in each area, including the elimination of unnecessary and duplicated work. We expect that although there may be fewer jobs overall, administrative positions in the new environment will be more rewarding as a result.

And we commit to treat all affected employees with the utmost consideration. If staff reduction becomes necessary, the University is committed to retaining as many positions as possible and to achieving cuts through attrition wherever possible.

We are now embarking on a period of consultation with the employees involved in these areas, and indeed with anyone in the University who has an interest in the matter. We expect to finalize these reports by the end of April and release an implementation plan by mid-May. Much of the implementation depends on having access to the new financial information system (FIS) which is not expected to be in service for at least a year.

Bryan Davies
Vice-President, (Business Affairs)
& Chief Administrative Officer

GRANTS & CONTRACTS: JOINING THE ELECTRONIC HIGHWAY

Our mission is to provide high quality administrative support to the academic community by designing a timely, efficient, adaptable, automated process for Grant and Contract Administration to allow more time to be devoted to research and teaching while maintaining a high standard of accountability.

PRE-AWARD

Current Process

- no central source of sponsor information
- manual preparation of applications
- up to 7 reviews and approvals
- little statistical information available

New Process

- on-line sponsor information
- electronic preparation/submit of applications
- only two reviews and approvals (Division and University)
- research database for statistical information

What this means to . . .

- Academic departments:*
- less time spent researching funding sources and preparing applications
 - less time "chasing" approval signatures
 - electronic submission of 50% of applications
 - no shadow systems to track applications

Research services (UTRS):

- electronic sponsor information reduces data input to TAURIS, the University's new research database
- less time spent on approvals
- electronic filing of applications data
- more time to help investigators locate funding sources

POST-AWARD

Current process

- mailed notification of award is paper-intensive
- manual preparation/distribution of Administrative Digests (ADs) is labour intensive
- little summarized information available

New process

- 50% electronic notification of awards
- automated summarization of sponsor award information
- statistical award information on-line

What this means to . . .

- Academic departments:*
- faster notification of awards
 - on-line access to summarized award information
 - no shadow (duplicate) systems in departments

Research services:

- less manual entry of award information
- time savings in distributing funds and record-keeping
- Change Memos replaced with electronic transmission
- ability to provide up-to-date data reports

FINANCIAL MANAGEMENT

Current process

- paper Administrative Digests filed in 3 places
- manual, paper-intensive account & budget set-up and sponsor reporting
- lack of summary and up-to-date financial information

New process

- on-line award information through interface between TAURIS and new financial information system now under development
- automated account with same-day budget set-up and sponsor reporting
- more on-line summary and up-to-date financial information
- electronic transmission of some sponsor reporting

What this means to . . .

Academic departments:

- funds available for use sooner (same day)
- on-line awards information available; no shadow systems
- more support from Restricted Funds Accounting staff for funds management and summary financial reporting
- fewer rejects to correct

Restricted funds staff:

- less time on account/budget set-up and preparing individual sponsor reports & invoices
- more time available to manage integrity of financial information database
- less time spent correcting rejections

PURCHASE & PAYMENT: FASTER, CHEAPER, BETTER

Our mission is to devise a process that dramatically improves our customers' ability to access and use information. That includes the entire process from the time a customer makes a purchase decision to the completion of the departmental reconciliation. We will improve customer confidence by providing reliable service and the information that meets their needs.

INITIATE PURCHASE/PAYMENT TRANSACTION

Current process

- 90% of purchase orders processed through Purchasing Department
- 7 different ways to purchase

New process

- streamlined methods will replace cheque requests and certified invoices
- all transactions initiated, tracked and processed through electronic system; more easily monitored
- decreased need for imprest accounts
- purchasing card use broadened
- reduce or eliminate requisition forms
- direct on-line ordering by user from approved vendor

What this means to . . .

Academic and administrative departments:

- decreased wait time because goods ordered more quickly

Central purchasing:

- less time spent processing items
- emphasis on maintaining commodity and vendor information through database
- more information and support for complex transaction requests

SUPPLIER DEVELOPMENT & DATABASE MAINTENANCE

Current process

- large number of preferred vendors with little opportunity for volume discounts
- vendor information not accessible for University community

New process

- fewer preferred vendors resulting in increased negotiation leverage on price and delivery
- vendor information, discounts, performance all on line
- Purchasing will follow-up with vendors
- preferred vendors will be on direct deposit and eventually electronic data interchange (including payment)

What this means to . . .

Academic and administrative departments:

- less time spent finding vendors
- widespread electronic access to essential, up-to-date information
- ease of ordering; little data entry required

Purchasing staff:

- new focus on database development (vendor information and commodity codes); vendor development and appraisals
- evaluation of internal services for competitiveness with external suppliers

RECEIVING GOODS

Current process

- most invoices paid with no acknowledgement of receipt

New process

- user responsibility to acknowledge receipt on-line
- hard copy receiving reports eliminated

What this means to . . .

Academic and administrative departments:

- able to authorize payment by confirming receipt

Accounts payable:

- no receiving reports received centrally
- no manual matching of purchase order and packing slips or invoices

PAYING

Current Process

- invoices received and keyed into computer
- excessive effort devoted to matching purchase orders and invoices

New process

- no invoices received for items purchased from vendor database (paid from purchase order after receipt acknowledged)
- expediting reports available for follow up
- Purchasing responsible to resolve discrepancies

What this means to . . .

Academic and administrative departments:

- more control over payments
- increased data entry if purchase made from unlisted vendor
- reduced need for shadow systems because of up-to-date reports to track expenditures to budget

Accounts payable:

- no receipt or keying of invoices
- no manual matching of invoices
- more monitoring of electronic deposits, electronic data interchange (EDI), and troubleshooting
- payments to vendors made with direct deposit, moving to EDI
- reduced rush and special handling

THE RETHINKING TEAMS NEED YOUR INPUT.

If you have questions or comments, please call the Rethinking Hotline:

978-2281

We'll respond in an upcoming edition of the *Changing Times*.

Crunch Is Coming

GRANT APPLICATIONS THAT ARE now frequently typed on a typewriter should be prepared on computers and submitted electronically, says one of the employee teams asked to find ways to make U of T more efficient.

Another group, which has looked into the University's purchase and payment procedures, recommends that charge cards be used to make purchases, a process that will cut red tape.

Both teams have submitted their draft reports to U of T's Rethinking Administration project that is looking for ways to make the best of the University's resources in an era of budget cuts. "The crunch is coming in terms of budget cuts," said Chris Handley, director of Rethinking Administration, who wants to make the employee recommendations part of the strategy to manage with fewer dollars.

Elimination of unnecessary and duplicated work through such streamlining may result in fewer jobs overall at the University, Bryan Davies, vice-president (business affairs), acknowledges in an announcement on page 4 of this issue of *The Bulletin*.

Handley said the University recognizes that current employees know the ropes and that retraining them will be to the University's advantage, even if their new jobs are quite different from those they do now. But people will have to adapt, he said. For instance, it could mean "that those who were filling out forms before are going to have to feel comfortable sitting at a keyboard and putting information into a computer."

If staff reductions are required, the University will try to cut by attrition "wherever possible," Davies' announcement says. Handley said U of T's current attrition rate is about five percent. "We believe that between attrition and early retirement packages we will be able to minimize involuntary job loss."

HOLDING THE LINE

Continued from Page 1 ~
resignation, retirement and other voluntary departures should account for the very significant majority of the contraction required.

BULLETIN: Will the 20 percent tuition increase over two years help balance U of T's books?

PRICHARD: The tuition fee increase is the approximate equivalent of a two percent increase in the base grant each year for two years. In a period of low inflation this is a significant increase in resources and it substantially mitigates the reductions announced last year in the government's expenditure control program. Those announcements reduced our base grant by approximately five percent and the tuition fee increases go a considerable distance in offsetting that reduction. They do not, however, offer any relief against the further five percent reduction represented by the social contract which will become permanent in 1996.

BULLETIN: How does the 20 percent increase stack up against calls for a much higher increase?

PRICHARD: I would have preferred to see a larger increase in tuition fees and a more rapid commitment to reforming financial aid for students. But under the circumstances I believe the government's increase is a reasonable compromise so long as the government proceeds with determination and urgency to introduce significant student aid reforms.

BULLETIN: Do the announcements provide any reassurance to faculty, students and the general public about the importance the government places on the quality of education at its universities?

PRICHARD: I interpret the government's announcements today as a reaffirmation of its commitment to the importance of universities. As the minister said in his statement, "Our colleges and universities have a vital role to play in the economic renewal of the province." With respect to quality I believe the government

remains somewhat ambivalent. The minister has strongly urged universities to attempt to increase enrolment. Such enrolment increases must be undertaken carefully if we are to avoid a diminution in the quality of the student learning experience. Each university will need to develop a plan based on a new financial framework.

Our plan will put a principal focus on quality while stabilizing enrolment and working to be responsive to the government's concern for accessibility to Ontario's universities.

BULLETIN: Dave Cooke mentioned a freeze in ancillary fees at post-secondary institutions. Will this affect U of T's budget?

PRICHARD: The freeze on ancillary fees is for one year in order to provide time for each university to develop a protocol governing ancillary fee increases that provides a role for students and is acceptable to the ministry. I'm optimistic that we'll arrive at a protocol that is consistent with the processes of Governing Council and reflects the strong student role in the governance of the University. In the meantime the deputy minister and the minister's policy adviser have confirmed that the ancillary fee adopted last year at U of T remains in place and as a result the freeze should not have any significant overall impact on our budget.

BULLETIN: Last year post-secondary institutions received bad news following the expenditure control plan announcement in April and then more bad news in August when further reductions were announced. Was there any suggestion that this could happen again this year?

PRICHARD: I believe the government appreciates how difficult it is to plan when unexpected announcements undermine or withdraw commitments previously made. I believe the minister of finance's announcement today was a commitment to stability for the transfer partners and that the government will do everything in its power to honour those commitments in the months ahead.

R & R — Rev Up & Relax



Stretch out those cramped muscles, limber up that tired body and release that work day stress! Tai Chi classes are one way to relax mind and body and face the rest of the day with more energy. About 17 faculty and staff members from the Faculty of Social Work gather in the conference room at 246 Bloor St. W. every Thursday at lunch hour for a session with Hart House's Tai Chi master Philip Mo. The classes are the perfect antidote to a long, cold winter.

Students Slam Tuition Hike

THE PROVINCIAL GOVERNMENT, faced with a revenue shortfall caused by fiscal incompetence, has shifted the responsibility of adequately funding higher education onto the backs of students, say student groups.

A two-year 20 percent increase in tuition fees announced March 23 by Minister of Education & Training Dave Cooke was denounced by student groups at U of T and elsewhere in the province.

Cooke told the legislature that tuition fees for university and college students would rise 10 percent in 1994-95 and another 10 percent in 1995-96. This will translate into an approximate \$200 per year increase for university students in an undergraduate arts and science program and \$100 for college students. The average university tuition in Ontario is now \$2,026 per year while college students pay \$916.

"This increase is aimed at assisting colleges and universities to make additional spaces available and protecting the quality of post-secondary education," Cooke said. Even with the increase, Ontario students will

continue to have tuition fees that are among the lowest in the country, he noted.

Stephen Johnson, president-elect of the Graduate Students' Union, said the tuition hikes would hit graduate students much harder than undergraduates. "Many of our students have children and other family responsibilities and they are already making sacrifices just to get an education," Johnson said. "This will make it even more difficult for them to accomplish that."

Vanessa Kelly, national chair of the Canadian Union of Educational Workers, a group that represents about 2,500 teaching assistants at U of T, said higher fees will make a university education unattainable to many. "The increase flies in the face of the government's public commitment to employment equity by denying more and more people in the designated groups a university education."

Titch Dharamsi, a U of T student and member of the Ontario Undergraduate Student Alliance, also slammed the hikes. The alliance favours higher tuition fees but only if

the government boosts overall funding for post-secondary education and improves access to student loans. "The only segment that wasn't spared the knife was students," Dharamsi said March 23. "The government has simply shifted its funding burden to students and that is completely unacceptable."

Jason Hunt, chair of the Ontario branch of the Canadian Federation of Students, said the hikes would force many students to abandon post-secondary studies. "We've had four major tuition fee increases over the past four years that have pushed students to the limit," he said.

Cooke noted that the Ontario Student Assistance Program will cover tuition hikes in its calculation of student aid. Also non-academic fees paid by students to cover costs of extracurricular and athletic activities will be frozen for one year.

And the province, Cooke said, will continue to urge the federal government to work with Ontario to establish a program that will allow students to pay back their student loans based on their income once they enter the work force.

Announcement Surprises Some

Continued from Page 1 ~
— which Finance Minister Floyd Laughren outlined as an expected \$2.1 billion revenue shortfall for the 1994-95 fiscal year — the post-secondary sector funding allocation was a sensible one.

"Universities have been hit very hard over the last two years," Prichard said. "This package means that we can stabilize the University situation and have a modest increase in resources which we can invest in more places for students and in improving the quality of their educational experience."

Prichard, who also favours higher tuition fees, added the two-year, 20 percent increase will see undergraduate arts and science students paying

an extra \$200 a year in fees. "This is no doubt an additional burden on students but it leaves Ontario with tuition fees that are still below the average in Canada and students still paying about 22 percent of the cost of their education."

Professor Peter Boulton, president-elect of the U of T Faculty Association, said he suspected all along the province would not reduce transfer payments. "It's refreshing to see that the provincial government, having made a promise last year, is actually keeping it this year," he remarked.

John Malcolm, president of the U of T Staff Association, said there is concern among his members that students will have to pay more. "But

it's a bit of a relief to see that we don't have to face any more cuts for this year at least," he said. "We hope this will enable the University to proceed with some effective planning to keep the work flowing and everyone employed."

Emily Carasco, vice-president of the Ontario Confederation of University Faculty Associations, said the transfer payment freeze is actually a 1.2 percent cut when seen in the context of the expenditure control plan's reductions announced last fall. Carasco, whose group represents 12,000 professors and academic librarians, also criticized the tuition fee increases. "The sounds you hear today are the doors of Ontario universities slamming shut," she said.

Peace in Our Time?



ANDRE SOUROJON

Former prime minister Pierre Elliott Trudeau reads from Lester Pearson's 1957 Nobel Peace Prize acceptance speech at Bloor St. United Church March 11. Trudeau attended the opening night of the two-day conference on Pearson's Unfinished Agenda: A Tribute to Lester B. Pearson, organized by the Northrop Frye Centre and the Centre for the Study of Religion in Canada at Emmanuel College, Victoria University. The conference examined peacemaking in the 1990s including the changing role of the United Nations, poverty and democracy.

Budget and Planning Committees May Unite

TWO COMMITTEES OF ACADEMIC Board will probably be united July 1, says Provost Adel Sedra.

The Budget and Planning & Priorities Committees have different objectives — one examines plans, the other, budgets. The anticipated merger is one way the University's administrators are trying to instill a change in the institution's culture, Sedra said.

If, and when, this "planning and budget committee" is established, everyone will find it easier to deal with academic priorities, he said. However, producing a complete list of academic priorities, similar to the one that ranks renovation and repair projects by priority, is not possible without delaying those projects ready to proceed, Sedra told Budget Committee March 4.

Alumni member Brian Burcell said the renovations and repairs list is useful because it offers him a perspective on what is happening at U of T. Sedra replied that attempts are being made to create a list of this type for academic projects; the creation of the academic priorities fund is a step in that direction, he noted.

The fund is described in the white paper on planning, published Feb. 21. The fund is the main base for restructuring and will be used to enhance certain programs, Sedra said in an interview. Which programs, is a question each division will have to grapple with.

The central administration has done its part by publishing the white paper that describes the University's objectives, Sedra said. "Now the academic divisions and departments must formulate their plans." He expects these to be complete by the end of the academic year.

Divisions that wish to receive additional funds must ensure that their academic plans fit the objectives articulated in the white paper. They will work in collaboration with Sedra who will recommend to the "budget and planning committee" which programs should be enhanced and which strengthened. Academic approval will also be needed.

The white paper, which goes to Governing Council for approval March 31, has been criticized by a number of correspondents to *The Bulletin*, including Professor Peter Rosenthal of the Department of Mathematics, who wrote in a Forum article March 14 that the paper looks like "a blueprint for further conversion of the University from a community of researchers and students into an over-administered factory for the efficient production of increasingly useless degrees."

Rosenthal's discussion was a case of "selective reading where two separate parts of the paper were pieced together to support his thesis," Sedra said. It annoyed him that Rosenthal ignored a whole section in the paper about research.

Accident Leads to New Project in Breast Cancer Research

BY KARINA DAHLIN

SCIENTISTS AT THE TORONTO Hospital and Sunnybrook Health Science Centre have found a new way to predict the severity of breast cancer. It's an exciting discovery and is attracting the attention of pharmaceutical firms, says Professor Eleftherios Diamandis of the Department of Clinical Biochemistry.

Breast cancer is the leading cause of cancer deaths among women and the leading cause of all deaths in women aged 35 to 55. A cure for the disease may never be found but Diamandis' research shows that progress is being made in the area of prognosis.

A complicated accident in the laboratory led to Diamandis' discovery. He and his team were developing a new way of measuring PSA in prostate cancer tumours. PSA is the prostate-specific antigen and, as the name suggests, researchers used to think the antigen was only found in the prostate. At the time, therefore, it seemed a good idea for Diamandis and his team to use blood samples from women as the control negative

sample in their study.

He asked one of his students to supply 100 female sera from breast cancer patients but by mistake she gave him 96 female samples and four from men with colon cancer. The test showed that 96 were negative (showed no PSA) and four were positive. Diamandis, who did not know a mistake had occurred, asked his student to analyze a large number of breast tumour extracts. If PSA was present in a small percentage of (what he thought was) female sera from breast cancer patients, he thought it might also be present in breast tumours.

He was right, but for the wrong reason. The mistake that was made with the samples in the first place was eventually discovered, but by then Diamandis had shown that PSA also occurs in breast cancer tumours.

Later he conducted a study of 200 breast cancer tumours. The samples were imported from Italy and were five years old. His research showed that 30 percent of the patients had PSA and demonstrated a significantly better survival rate than those whose tissue samples did not indicate

the presence of PSA. Consequently, Diamandis suggests, women without PSA should be treated more aggressively.

PSA does not show up in regular blood samples. To discover if PSA is present, a tumour must first be detected by other means before physicians can take a biopsy and test for the antigen. One of the promising features about PSA is that it is associated with smaller tumours in the early stages of the disease as well as a longer disease-free and overall survival rate, said Diamandis. "That is why it is a good prognostic indicator." The sooner a physician knows the prognosis of a cancer, the sooner the appropriate therapy can be selected.

Diamandis and his team are publishing their findings in four papers over the next couple of months. But their work is not complete. Over the last eight months they, in collaboration with Dr. Donald Sutherland of the Bayview cancer centre at Sunnybrook, have examined the breast tumours of 1,275 women who are patients at the centre and they plan to follow the progress of these patients for a number of years.

White Supremacist Controversy Draws to Close at U of T

BY SUZANNE SOTO

A PROFESSOR WHO INVITED white supremacists to address one of his political science classes says he is glad the resulting furore has finally been put to rest.

When Professor Joseph Fletcher invited the Heritage Front and the Church of the Creator to speak to his third-year class in March 1993 he hoped to give students an insight into contemporary racial intolerance. Instead he drew the ire of a number of groups and the Toronto mayor's Committee on Community & Race Relations.

The controversial incident, however, seems to have drawn to a close following a Feb. 28 letter to President Robert Prichard from Toronto mayor June Rowlands. In it she commends both the University and Fletcher "for providing a course and curriculum which specifically addresses the issue of racism and intolerance." Nevertheless Rowlands says her committee urges U of T to take its concerns into consideration if a similar aca-

demic exercise is planned in future. These concerns, outlined in a May 12 report, include failing to provide students with enough background information to fully understand the groups, student discomfort with the exercise, a possible lack of control during and following the visit and the setting of a precedent for other universities and colleges.

Despite Rowlands' reference to the report, Fletcher said he feels heartened by the letter. "I am delighted that the committee has decided to commend rather than condemn me," said the specialist in race relations and civil liberties. "I'm also glad that some members of the race relations committee have realized that the University is for the purposes of education and that sometimes involves doing things they may

not be entirely happy with."

The probe into Fletcher's actions was prompted by complaints to the committee by B'nai Brith of Canada and the Toronto group Anti-Racist Action. The groups charged that by allowing white supremacists into the classroom, the University unintentionally helped them in their efforts to gain greater credibility.

Following several meetings, the mayor's committee echoed these views. Its May report urged U of T to develop guidelines that would prevent certain groups from speaking or distributing their literature on campus.

In a letter to the mayor last September, Prichard politely but unequivocally rejected the suggestion, saying that U of T must make its own decisions on policies.

Outstanding Teachers Honoured

THE FACULTY OF ARTS & Science will honour six recipients of its 1993-94 outstanding teaching awards March 25 at Hart House. The awards recognize outstanding achievement in classroom instruction, course design, curriculum development and innovative teaching methods.

The recipients are: Professors Owen Lee of the Department of Classics who, over a 35-year career, has made the world of ancient Greece and Rome familiar and memorable to thousands of undergraduates; Jill Levenson of the Department of English who is consistently rated by students as one of the best instructors in the department; Irving Zeitlin of the Department of Sociology whose

clear, straightforward teaching helps students better understand individuals and society in the sociological perspective.

And: Robert Vipond of the Department of Political Science who constantly seeks to capture the imagination of students through an innovative curriculum; and Ian Manners of the Department of Chemistry, an enthusiastic teacher and researcher who has encouraged many undergraduates to continue in the department's graduate programs; and senior tutor Corey Goldman of the Department of Botany who has been described as a "teacher of teachers" and whose promotion of novel laboratory methods has resulted in a unique introductory biology course.



Joseph Fletcher

IN MEMORIAM

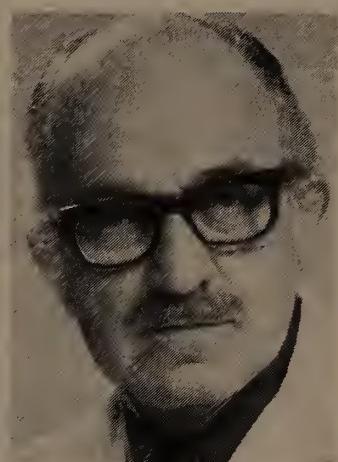
Julio Martin Was Pioneer of Islet Transplantation

PANCREATIC CANCER HAS claimed the life of Professor Emeritus Julio Martin of the Departments of Physiology and Paediatrics. He died Dec. 1 at the age of 71.

Martin dedicated his life to the study of endocrine disorders in children, particularly juvenile-onset diabetes mellitus. He was one of the pioneers of islet transplantation as a possible treatment for diabetes and he demonstrated the influences of growth hormone on insulin secretion.

In the early 1980s he made another important discovery with a colleague from New Zealand. They found that, in animals, ingesting cow's milk protein during infancy contributed to the development of diabetes. Subsequent studies in Canada, Scandinavia and the US confirmed these observations and showed that breast-feeding protects children against the development of juvenile-onset diabetes. A major study on the issue will be conducted soon in Finland and Canada; children from diabetes-prone families will be given formula without cow's milk protein or will be breast-fed in an effort to prevent diabetes.

A native of Salta, Argentina, Martin obtained his MD from the Universidad de La Plata in the province of La Plata. His thesis was supervised by Bernardo Houssay, winner of the 1947 Nobel Prize in physiology. Martin taught physiology in La Plata University School of Medicine until 1961 when he became a research fellow in the pathology department at Washington



University in St. Louis. He came to Toronto in 1963 to join U of T and the research institute of the Hospital for Sick Children.

During his career, Martin was a visiting professor at a number of universities including his alma mater in La Plata, Argentina, the University of Umea in Sweden and the University of Sussex in England. The bulk of his research, however, was carried out in collaboration with researchers in Finland where the incidence of diabetes is the highest in the world. For his service to Finnish science and medicine, the Finnish government made him a Knight of the Order of the White Rose in 1992.

"Dr. Martin was held in great esteem by his colleagues at the Hospital for Sick Children, not just for his contributions to science and medicine but for his humanity," said Professor Brian Robinson of the Department of Biochemistry and Sick Children's. "He was interested in people and for that, most of all, we will remember him."

COMMITTEES

INSTITUTE FOR INTERNATIONAL PROGRAMS

Professor Heather Munroe-Blum, vice-president (research and international relations), has established a committee to review the Institute for International Programs. The institute was established in 1989 to promote an international perspective in the research and academic life of the University and to develop international partnerships with leading universities around the world.

Responsibilities have included planning, communications and liaison, international contracts and agreements, delegations and visitors and fund raising.

Terms of reference

1. to review and evaluate the range of activities, the structure and the staffing of IIP in the context of its original mandate and functions;
2. to assess the extent to which IIP has contributed to strengthening the international profile and effectiveness of U of T research and international research collaboration;
3. to assess the extent to which IIP has contributed to strengthening international studies and student/faculty exchanges;
4. to assess the extent to which IIP has enhanced our international relations with respect to its contributions to international visits, trips and the like;
5. to assess the extent to which IIP has facilitated the generation of resources for international activities;
6. to make recommendations with respect to: a) any organizational changes necessary to enhance the

international profile and effectiveness of U of T with respect to its institutional mission and international strategy; b) areas in which overall benefits could be realized through focus and coordination of resources, activities and location; and c) the mandate of IIP (or alternative organization) in the form of three or four primary functions.

Membership

Professor Heather Munroe-Blum, vice-president (research and international relations) (chair); Professors Marion Bogo, acting dean, Faculty of Social Work; John Britton, associate dean, Division II, School of Graduate Studies; Michael Charles, dean, Faculty of Applied Science & Engineering; Wendy Dobson, Faculty of Management; Michael Donnelly, associate dean, social sciences, Faculty of Arts & Science; F. Kenneth Hare, chair, Institute of International Programs; John Provan, associate dean, post-graduate medical education, Faculty of Medicine; Janice Stein, Department of Political Science; and Paul Thompson, principal, Scarborough College; and Beata FitzPatrick, assistant provost; Elizabeth Paterson, director, International Student Centre; and Judith Chadwick, special assistant to the vice-president (secretary).

Submissions relating to the committee's terms of reference are welcome from all members of the University community and should be sent to Judith Chadwick, room 133S, Simcoe Hall, before April 8.

LETTERS



WHAT IS THE PURPOSE OF STUDENT SURVEY?

Your front-page article on March 14 certainly caught my attention (Ethnic Mix Changes Student Body). You report that the office of the provost's adviser on undergraduate education asked 4,000 incoming students "hundreds of detailed questions" for the information of senior administrators who now know "among other things, that just 47 percent consider themselves white" and that 23 percent hope to earn a PhD. Unfortunately the article omits virtually all of the information

that anyone familiar with survey research methods would want in order to decide whether to take the results seriously or put them in the blue box.

What was the sampling design? Who actually designed and conducted the survey? What was the response rate to these hundreds of questions? What is the sampling error? Even the daily newspapers usually give us this much information when reporting the results of an opinion survey.

Other questions come to mind in these tight financial times. How much did the University

pay for the conduct and analysis of this massive survey? Has anyone outside the University helped to pay for it? If so, what use do they intend to make of the results?

Finally I find it most peculiar that in the 1990s the administration of the University spent resources on asking incoming students "to choose the term that best described their race or colour." No wonder I have to spend time in my classes teaching students that skin colour is not a useful variable for much of anything and that, to quote a standard textbook: "the concept of race has become obsolete insofar as it denotes a classification with concrete existence, rather than a convenient categorization for some particular purpose." What particular purpose is served here?

ALAN BAKER
DEPARTMENT OF GEOGRAPHY

~ Continued on Page 9 ~



ON THE OTHER HAND

B Y N I C H O L A S P A S H L E Y

MANY HAPPY RETURNS

IT IS A CRUEL IRONY THAT AS WE emerge from the hell that is a Canadian winter we go straight into income tax time. People who would rather be talking about relationships or the Reform party's code of conduct find themselves embroiled in baleful conversations about depletion allowances and federal foreign tax credits.

Now, I don't want to crow but I long ago found a way around the heartache of tax preparation. I married an MBA or, more accurately, an English major who showed the potential of evolving into someone who could prepare tax returns with efficiency and good cheer.

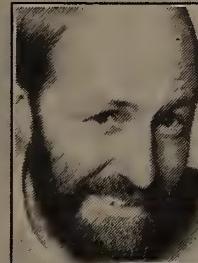
This is not to say I couldn't do my own taxes if pressed. I was doing my taxes when a 50-goal season really meant something. I'd just rather not go through it again. But I've watched my wife and I picked up a book at the post office and I think I can help you.

I hasten to note that I am not an accountant. I take no responsibility for weird ways Revenue Canada interprets its documents or for any arbitrary measures it might use to deal with you if its interpretations are different from yours. I try to find solace in these comforting words in this year's guide: "You are entitled to be presumed honest unless there is evidence to the contrary." Think of it as the Tonya Harding rule.

Anyway, my first bit of advice is to put it off as long as you can, particularly if, like me, you haven't received a tax refund since Dief was Chief. The world might end before April 30 and you'll feel a fool if you've spent your last day doing your income tax.

Eventually, of course, you have to get down to it. Clear yourself some space, sharpen a pencil, fire up the calculator and, most important, make sure you have all your 1993 documents at hand. This includes all those forms — T4, T4A, T4U, T42 and 24T — as well as assorted receipts you meant to put in an envelope somewhere and the restaurant stub you found in your jacket pocket which you mistakenly thought you could use come tax time.

Proper preparation of a tax return requires calm and



relaxation. Some swear by deep breathing exercises. My wife, by contrast, prefers something at the dry end of the Amontillado scale. You must feel at one with your tax return. This may take more than one glass.

Spend a little time getting to know your Tax Guide. It is there to help. The good news is that your lottery winnings will not be taxed. However, if you spent more than six months in prison in 1993, you cannot apply for a GST credit. After just a short time with your Tax Guide, you too will be bandying about such terms as "equivalent-to-spouse amount" and "northern residents deductions."

To strike a folksy note the authors of the Tax Guide offer real-life scenarios. Lise, for instance, received a \$1,500 scholarship to attend university. Good for Lise! Karen, on the other hand, got sick while on holiday and spent \$2,800 in a Cuban hospital. I expect to read, "Nicholas 'forgot' to declare his self-employed income to us last year and is now doing time in a medium-security facility."

Here's something you may not have known: "If you are a member of a religious order and you have taken a vow of perpetual poverty, claim your deduction on line 256 for your return." Most of us have simply had perpetual poverty thrust upon us; now here's a tax dodge we hadn't thought of.

So, ready to begin? Well, it's very easy, really. Just think of a number between one and 49, multiply it by 17 percent, add lines 101 through 147, subtract line 233 from line 150, attach a completed Schedule 7, take away the number you were thinking of earlier, look up the amount from line 406 in Table B, do the hokey-pokey and you turn yourself about. Finally add three zeros to the figure you last wrote down and write that number on a cheque.

Quickly stuff all the above into the accompanying envelope and stick it in the mail before the Amontillado wears off. Now relax — it'll be a couple of months before they come after you.

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LETTERS



~ Continued from Page 7 ~

DOCUMENT RELIES ON WRONG ASSUMPTIONS

Two cheers for Peter Rosenthal, whose Forum piece makes some important points about the shortcomings of that badly written and ill-conceived document known as the provostial white paper (*Fault Lines in White Paper*, March 14). In one short essay Rosenthal could not deal with all the objectionable aspects of a document so replete with menace and I can only comment on one or two of the many others.

It strikes me that the most dismaying attribute of our senior administrators is not that there are too many of them, that they are overpaid or that they are greedy for more (though all these things may be true) but that they habitually display such studied contempt for the teaching faculty of the University. Of the many ways that this contempt is manifested in the white paper, the most insulting, I think, is the assumption that professors will be first-rate researchers and teachers only if they are harried, hounded and threatened with financial penalties — not because research and teaching are what they love to do, are trained to do and persist in doing well even under adverse circumstances.

Almost as dismaying, at least for someone in the humanities, are the crackpot notions about the nature of research and scholarship that are found in the white paper. The approved meaning of "research," it seems, is big, expensive, "prestige" projects using batteries of computers and employing hordes of graduate assistants. If all you need is a few thousand dollars so that you can sit by yourself in the Biblioteca Vaticana or the Herzog August Bibliothek for a couple of months reading manuscripts and rare books, you're not really doing your bit for old Varsity.

It seems, furthermore, that worthwhile research can only take place on the "frontiers" of one or more disciplines, which is to say that it must be trendy. It is apparently inconceivable that anything of value could be done by traditional methods a few miles behind the frontiers, which historically is how and where some of the most internationally esteemed scholarship at this university (and others) has been done. And, of course, you must accomplish all this mob-oriented, costly and newfangled research while doing a prize-winning job of teaching more and more students for more and more hours with constantly shrinking resources.

If you don't do all these things well enough to satisfy the "performance indicators" devised in Simcoe Hall, you will suffer condign punishment. Our administrators actually seem to believe

that the world is full of world-class scholars and teachers who want nothing better than to come to Toronto to work under such conditions. I doubt it.

JAMES M. ESTES
DEPARTMENT OF HISTORY

TUTORS LOOK FOR JUSTICE IN DOCUMENT

One objective missing from Planning for 2000: A Provostial White Paper on University Objectives (published as a special edition of *The Bulletin* Feb. 21) is a commitment to justice. There are faculty members at this university who have a PhD, who design and teach undergraduate and graduate courses, coordinate programs, do research, attend conferences and publish scholarly work. However, they are denied tenure, promotion, pay equity and dignity because they are arbitrarily labelled tutors and constitute a pool of disposable people.

Injustice remains.

OLGA BAKICH, SENIOR TUTOR
CHRISTINA KRAMER, ASSOCIATE PROFESSOR
VERONICA AMBROS, ASSISTANT PROFESSOR
DEPARTMENT OF SLAVIC LANGUAGES & LITERATURES

PAPER SIGNALS NEW ERA OF MANAGING BY STRESS

I have some serious concerns about the white paper, published as a special edition of *The Bulletin* Feb. 21. The paper is an extremely important document since it proposes to make fundamental changes to the manner in which departments will be funded and also proposes to develop new criteria for evaluating and remunerating individual faculty members.

First, I am dismayed by the lack of consultation that has gone into the development of this paper. I object to the administration's contention that publication of the paper is part of a consultative

process when, in fact, it is clear from looking at the document itself that it is a *fait accompli* and that the only input the administration is seeking from the departments is a detailed explanation on how we will implement it.

It is unconscionable that a policy paper of such importance should have been conceived unilaterally by the central administration. A process of consultation with faculty and librarians should have preceded its promulgation. Without such a process, it is clear that the administration does not regard us as colleagues planning together for the future of our institution; rather we are being treated as unskilled workers who must take orders from a centralized management.

The white paper is a proposal to apply new, business-oriented values to the way the University must operate in the future. Where in the past faculty members rotated through administrative positions with the understanding that the interests of faculty and administration were congruent, the white paper sets up a two-tiered system in which a powerful central administration will control budgets, determine which programs are acceptable and set productivity levels. Like the high-powered management of a multinational firm, the administration will set goals for higher and higher levels of productivity and impose a set of fixed criteria on the faculty and librarians whose productivity has to be closely monitored. Departments that do not meet the administration's goals will be punished through budget cuts; recalcitrant departments may even be dismantled.

The paper recommends that everything be measured, quantified and translated into dollars, according to criteria devised by a few administrators. However, it does not spell out a process of faculty-administration consultation by which individual cases will be judged. What it does say is that precise standards must be applied

to measure the performance of individuals, programs and departments with a view to eliminating those which do not meet the prescribed levels. Such standards must also be used to spur individuals and departments to compete with each other for the same pool of money, held by administrators to reward "good behaviour." Gone are all ideas of collegiality and cooperation, now that the new era of management by stress has come into place.

As things are, it is difficult enough for a departmental chair to make perfect decisions. But at least the chair knows everyone by name and is able to consult personally when a crisis (such as the closing of Italian at Scarborough) must be resolved. I believe the departmental chair, in consultation with other members of the department, is the best person to make the decisions that will protect the students and faculty in these types of situations. If the policies in the white paper are adopted, it will not be the departmental chair but an administrator at Simcoe Hall who will make the decision. Quite possibly that administrator will be a person who has no sense of the issues involved in placing a teacher with a specific specialization in courses which are outside of his or her normal area of research.

Of course, we should all share the paper's goal of a better university in which faculty teach more, research more and keep improving ourselves. In fact, most of us are already working hard. It is difficult to imagine how a larger, better paid and better trained administration at Simcoe Hall can push everyone else to become even more productive. Forcing productivity will not create the gourmet restaurant the administration describes but a McDonald's style chain of fast-article and fast-teaching education outlets.

Finally, the white paper offers tutors and senior tutors little status. It is imperative that the people in the teaching stream be considered as important as the tenured faculty and be appreciated for their work in teaching, research and administration. If this does not happen, departments will either have to let their tutors and senior tutors go or be penalized by the administration in a manner that would affect the standing of the whole department.

GIULIANA SANGUINETTI KATZ
ITALIAN, ERINDALE COLLEGE

THE BUTLER'S ESTATE

In connection with Peter Rosenthal's informative article in *The Bulletin* (*Fault Lines in White Paper*, March 14), a remark by historian A.R.M. Lower ought to move from oral to written memory. Over 30 years ago, when the Queen's senate was debating the

first diversion of university money for a building devoted solely to administration, he said, "When the estate is handed over to the butler, the sons [sic] live to regret it."

There were Tories in Canada in those days.

JOSEFA KROPP
DEPARTMENT OF ENGLISH

THE STORY OF OISE'S DEFICIT

Malcolm Levin's letter to *The Bulletin* acknowledging that retirement emoluments really do contribute to deficits (in OISE's case they account for a bit more than 100 percent of deficits in recent years) was long awaited (Finances are better than articles suggest, March 14). It is almost all that is needed to allow a sordid episode in the institute's history to be acknowledged and dealt with.

The letter lacked only one important item, an acknowledgement that the policy of paying people up to a quarter million dollars to leave was not budgeted for *a priori* or even after the omission was complained of. Once this acknowledgement is made as publicly as the other points in Malcolm's letter, OISE will be ready to put the matter behind it and in Hillary Clinton's words, "move forward into the future." Politicians, especially university politicians, are very fond of the future when subject to a little harassment.

I am not implying that OISE budgeting is bad by the standards that prevail in universities. OISE's budgets are virtually unreadable and afford a minimum of information about what goes on here. But, alas, that is the norm for university budgets. At best, U of T's budgets are marginally better and when they are at their worst, they are notably more distorting than OISE's. No financial or administrative frailties are likely to be abated by transferring OISE's revenues and real estate to U of T. Anyone who doubts this should try to learn something about the fiascoes at the schools of medicine and architecture by reading their budgets. The suggestion that OISE give its revenues and real estate to U of T is quite absurd. It is an idea whose time has come and gone.

JOHN HOLLAND
ONTARIO INSTITUTE FOR STUDIES IN EDUCATION

LETTERS DEADLINES

APRIL 4 FOR APRIL 11

APRIL 15 FOR APRIL 25

Letters should be submitted on a computer disk in WordPerfect or plain text format, or on paper, typed and double spaced. Please include a telephone number and, if possible, a fax number.



A STRONG FOUNDATION

The white paper is worthy of support, committee chair argues

BY RAYMOND CUMMINS

ON FEBRUARY 23 THE COMMITTEE ON ACADEMIC Policy & Programs (AP&P) of the Academic Board reviewed the draft of the provostial white paper entitled Planning for 2000. The draft had just been published as a special edition of *The Bulletin*. Later I reported to Academic Board that AP&P found the document surprisingly hopeful in the face of the dismal budget conditions facing the University. How did our committee reach its conclusion?

We took the white paper apart, section by section, and asked individual committee members to take responsibility for initiating discussion of individual sections. We were looking for the following:

- anything that was contrary to current practice
- anything that appeared to lie outside existing University policy
- any statement or assertion that would need legislative action within the University in order for it to prevail
- any statement that flew in the face of the best traditions of the University or would be an affront to the University.

WHAT IS THE OVERALL IMPRESSION GIVEN by the report?

It is clear and well written and it is coherent. It hangs together. Most obviously it is long. One observer wondered if it was made long so that no one would read it to the end. If this were the strategy (and I don't think it was) it did not work. The document has been widely read and carefully studied by many individuals across the University.

The document has three parts. The first and longest part is dominated by a set of objectives and strategies in 10 sections. The second part is near the end — it is short and it is painful. One observer called it the scorpion's tail. Here, in the section entitled The Framework for Planning, we learn of the budget cuts to be endured across the board. Finally we find the call to action in the appendix. Here we are told of the academic priorities fund and how divisions and program planners are expected to gain access to the funds required to put best practice into action and to fulfil the vision of the white paper.

The bulk of the paper is the long set of objectives and strategies and their explanations. A few readers questioned the need for a list of such "motherhood" statements defining what any good academic enterprise would aim for. On the other hand, most commentators recognized this as a most valuable compendium of best practice. Here explicitly stated are the best practices found in various parts of the University already. Without the aid of this exposition, and in the face of apparently relentless budgetary pressure, our administrators and policy-making bodies might be tempted by arguments that we follow examples of worst practice or simple expedience. This would surely grind us down to mediocrity.

The parts about objectives and strategies seemed to one commentator to represent a bulwark against the practice of whipsawing. In whipsawing one group can point to the questionable practices of another group, follow those practices and thereby attempt to make them legitimate. The document is a strong signal that whipsawing will not work here. We are to aim for emulation of best practice and that best practice will be rewarded.

This is what seems to be the source of much of the hopefulness and optimism that grows out of the document. We have the promise of reward for following practices that have already been shown to be possible within the University. We see the potential to stop the slide towards mediocrity that seemed to be the inevitable consequence of underfunding.

A NUMBER OF COMMITTEE MEMBERS REGISTERED THEIR concerns over wording and emphasis in parts of the document but two questions emerged which appear to be the most academically important.

Does the document attempt to stretch the faculty beyond reason as it calls for more teaching while maintaining highest

in jeopardy.

On Feb. 24 Academic Board decided to endorse the general planning direction described in the white paper. There are several reasons and several explanations for why the board did so. They all start with an appreciation of the openness and directness that our provostial team has shown. A large part of the white paper was published in four reports last September and they were treated to careful scrutiny during the fall of 1993.

The four reports dealt with enrolment balance, tri-campus planning, the administration of PTR and the health sciences. By the time the white paper appeared, it was apparent that the scrutiny and critical analyses of the earlier reports had yielded suggestions that had been heard and acted upon. The white paper incorporates many improvements suggested and urged by reviewing groups including Academic Board and its committees. There has been a sharing of strategies and a sharing of the development of these strategies.

The openness continues. Note that the white paper is still labelled a draft. During the meetings of the committees of Academic Board many suggestions for improvement were accepted and will, I am sure, be found in the final version.

Another reason for Academic Board's approval of the white paper, I think, is that the plan is deliberate and coherent. There is no panic associated with it. It is rational and firmly based on the traditions of the University. It is a plan that is internally consistent and that grows out of our status as a research university.

It is also a plan that recognizes the decentralized nature of the University of Toronto and the role of the divisions and the potential diversity of the valid responses to the plan. It calls for the involvement and talents of planners in each program and in each area of study.

Finally the white paper was welcomed because the alternatives to it are unacceptable. One alternative would be to take no action and continue to absorb cuts across the board. Years ago we cut out the fat. We have already seen large cuts to non-academic staff. This alternative would see us continue to chew away at every program and every area of study until we became overwhelmed by mediocrity.

Another alternative would be to take drastic and arbitrary actions on an ad hoc basis. Such actions would have to be initiated from the centre. This seems to be a recipe for disaster. One writer in another campus pub-

cation has already called for the closing down of one or two specific parts of the University as an alternative to the white paper. We do not need ad hoc-ery. We need careful scrutiny and evaluation of all parts of our academic enterprise.

It is essential that we build on the strengths of the University, that academic and budgetary decisions be made in concert and that individuals in each division and program or area of study be able to make plans in the full knowledge of what is expected. It is also essential that we reward efficiency in the delivery of high quality teaching and research. The white paper addresses these points and, therefore, the document is worthy of study, consideration and support.

Raymond Cummins is a professor of botany and chair of the Committee on Academic Policy & Programs of Academic Board.



BEYOND THE PAIN

The suicide of a promising young doctor has prompted family and friends to ask more than why

BY SUZANNE SOTO

BY ALL ACCOUNTS, ARTHUR Sommer Rotenberg was an exceptionally bright and successful man when, at the age of 36, he took his own life.

He attended Upper Canada College and the United World College in Wales before graduating with honours in geology from Victoria College and subsequently the U of T Faculty of Medicine. An athlete, he excelled at skiing, tennis and sailing and one summer during pre-medical studies cycled his way across Europe with a backpack full of textbooks. A lover of art and music, he enjoyed playing the guitar and had a talent for carpentry, gardening and photography. "He was attractive. He had wit and charm. He was fun-loving and full of vitality," says his mother, Doris Sommer-Rotenberg.

But Arthur suffered from manic depression, a condition characterized by severe mood swings and periods of extreme activity and exhaustion, against which he battled for about half his life. Manifesting itself most acutely during episodes every six or seven years, the illness sapped him of his energy, self-confidence and ultimately, in November 1992, of his will to live.

Although devastated by the news of her son's death, Sommer-Rotenberg says she immediately thought of establishing a research fund in his name. "I couldn't bear the grief of his death, the finality of it. I wanted to prolong his spirit which had been a very valiant, noble and creative one."

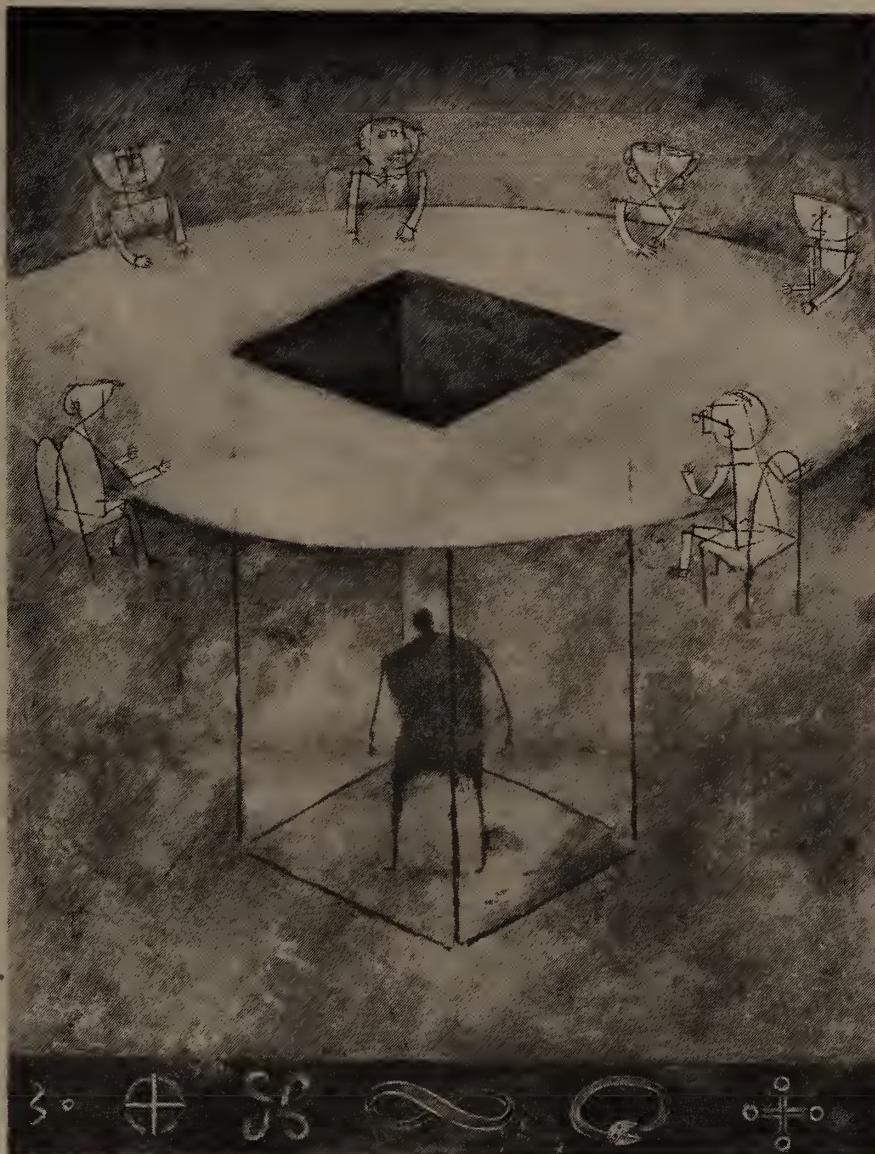
After she consulted with family friend and former dean of medicine Professor Fred Lowy of the Department of Psychiatry, the Arthur Sommer Rotenberg Research Fund was established in the spring of 1993. The committee overseeing the fund is trying to raise \$2.1 million to endow a chair in suicide to examine areas such as prevalence, causes and prevention. It has collected about \$800,000 to date in donations and pledges.

A full endowment would enable the psychiatry department to appoint a researcher of distinction to coordinate and supervise scholarship and inquiry into such areas as the biological and environmental causes of suicide. It would also encourage specialists from a variety of disciplines to join forces in one unit and would establish the first such chair of its kind in the world, says Professor Isaac Sakinofsky of the Departments of Psychiatry and Preventive Medicine & Biostatistics.

Sakinofsky heads a pilot program in suicide studies at the Clarke Institute of Psychiatry that conducts some research and provides advice to clinicians dealing with suicidal patients. He notes, however, there is no "central rallying point" for studies in suicide. Research is done "tangentially as part of other studies looking at mental illness. What we need is an anchor point, somewhere where we can initiate collaborative programs in suicide prevention and better methods of caring for suicidal people."

The programs, Sakinofsky and Lowy say, are urgently needed because over the past three decades Canada's suicide rate has risen at an alarming pace. The biggest increase of self-inflicted deaths has occurred among the young — those between the ages of 15 and 34.

Over 3,000 Canadians take their lives each year; in England, about 4,600; in the US, about 30,000. Proportionally, Canada's suicide rate is the highest of the three, Sakinofsky says.



Reasons for this are still unknown, he adds.

The greatest number of deaths occur among young males. Men, statistics show, are four times more likely than women to kill themselves and these numbers are increasing — as of 1990, one in 20 male deaths from all causes was self-inflicted; 30 years ago, the figure was closer to one in 100.

"Suicide now claims almost as many lives as motor vehicle accidents and more than those lost to homicides, chest and liver diseases and congenital and perinatal conditions," Sakinofsky says.

PSYCHIATRIC ILLNESS IS THE MOST PREDOMINANT FACTOR IN SUICIDE. An estimated 90 percent of those who end their own lives suffer from such afflictions as severe or manic depression and schizophrenia. "There is no one mental illness that causes suicide," Sakinofsky says. "But they all at some point may give rise in people to the idea that life is futile or that suicide will solve their problems, end their suffering."

Both Sakinofsky and Lowy emphasize, however, that psychiatric conditions *alone* are not the cause of suicide and, in fact, the vast majority of people with psychiatric disorders do not kill themselves. Researchers believe biological factors as well as psychological and environmental considerations are also to blame.

"The roots of suicide are everywhere," Sakinofsky explains. "They are in biology, in the thinking and thought processes, in the antecedents during childhood such as childhood deprivation and abuse and in one's family background. We really need

to know people in all dimensions before we can understand and tackle this problem."

Lowy, who heads U of T's Centre for Bioethics, believes society has a responsibility to do as much as possible to avert suicides. "Quite apart from the personal tragedy, suicide is a terrible drain on society," he says. "These are often very young people, of full potential, who if they had been helped over the rough spot might have been able to live satisfying and productive lives."

Recent research has shown there is much that could be done to prevent people from ending their lives, Sakinofsky says. It has been suggested, for example, that there is not an adequate flow of the brain chemical serotonin in those who often contemplate suicide. Psychiatric inquiry, meanwhile, has demonstrated there are trigger points and stresses in people's lives that lead some to commit suicide. Availability of lethal weapons and easy access to deadly drugs can also play a contributing role.

Further research may some day lead to the development of medications that specifically regulate the flow of chemicals in the brain and diminish suicidal thoughts. Better programs to address mental illness and other stresses could also be initiated as could policies that make it more difficult to obtain guns and drugs.

LOWY POINTS OUT THAT ONE OF THE most important steps in preventing suicide is recognizing that the potential for self-destruction is part of the human condition. As such, suicide should be openly discussed to remove its stigma and shame and allow society to devise preventive measures. Lowy,

Sakinofsky and Sommer-Rotenberg believe a chair in suicide studies at U of T would go a long way towards achieving these goals.

For far too long, Sakinofsky says, the phenomenon of suicide in psychiatry has either been ignored, avoided or dealt with as part of other major psychiatric syndromes. A well-established research program would change that. "Instead of persisting as a fringe area of interest for psychiatrists, this problem would be given the unremitting attention and organized approach it needs for a major breakthrough to take place."

Sommer-Rotenberg thinks that society as a whole must start addressing suicide in the same way it now confronts cancer and AIDS — as a health and societal issue. "Suicide is still treated like a dark family secret to be denied with all the strength that denial imposes," she says. This denial and accompanying silence, however, only ensures that its causes remain unchecked, unknown and untreated.

"For me, as Arthur's mother, this chair symbolizes the thrust of his existence — his choice of medicine as a profession to which he had dedicated his life and by which he hoped to serve his community; his generosity, his caring, his competence," she told an audience last November at the inaugural dinner for the Arthur Sommer Rotenberg Research Fund.

"The chair will enable others to do what Arthur might have done had he lived. It will give meaning to his death which is otherwise without meaning. But more important than any personal component is the fact that the knowledge engendered by this research will help people and lead to the prevention of further unnecessary deaths."

DANGER, DEATH AND THE POLICE

A U of T study examines our law enforcers and explodes some myths along the way

BY SUZANNE SOTO

MOST PEOPLE WOULD DESCRIBE police work as a tough, perilous and lonely occupation that exposes its members to high risks of injury and violent death.

This, says Professor Philip Stenning of the Centre of Criminology, has been our thinking for decades — the notion of "the officer out there, all alone in a mean and hostile world." Now it appears this perception may not be the most accurate one.

Stenning has just released findings from a study that examined mortality rates of police officers. "The main object of the study was to find out to what extent being a police officer is more dangerous than other professions."

Among other results, he has found that officers are not at an especially high risk of dying from either violent or natural causes and that access to more powerful firearms would likely not significantly reduce police officer homicides. And contrary to popular opinion, the study notes that officers are half as likely to commit suicide as members of the comparable general population.

These findings, Stenning acknowledges, are surprising and controversial and have already been criticized by some police representatives. But the researcher, who has probed various aspects of policing during his 25-year career, stands by them. "I think they do raise very legitimate questions about some of the popular beliefs regarding the dangers and stresses of police work," he says.

Working with data supplied by four

Canadian police departments, each with more than 1,000 officers, the study looked at the deaths of male officers who died from any cause while a member of these forces. The information was compared with Statistics Canada data on deaths among adult males between the ages of 19 and 64. The police data, covering 20 years, included 254 officers who had died between 1970 and 1990. Fourteen deaths were murders of officers who had been armed and on duty.

Stenning found that, in nine of the 14 murders, the officers had not drawn their guns; in four, the officers had drawn their weapons but not had a chance to use them; and in only one did the officer have an opportunity to pull

the trigger. This information, Stenning says, strongly suggests that the kinds of firearms the officers were carrying at the time of death played little role in determining risk of death.

In the area of violent deaths — from homicides, suicides, motor vehicle and other accidents — the study found that death rates actually declined over the two decades. While it showed that officers are at 1.7 times greater risk of homicide than members of the gener-



al population, it noted that homicide rates among this group are still very low; they account for less than 10 percent of all in-service deaths.

Overall death rates among officers — from violent and illness-related causes — are almost four times lower than for the general population. Stenning believes the lower mortality rates are a result of more selective recruiting, better training, more care taken by officers

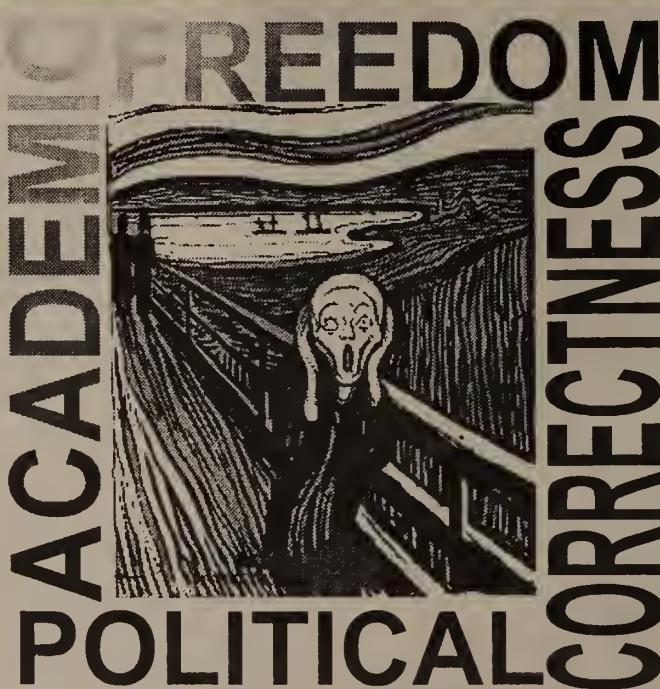
when exposed to volatile situations, improved motor vehicle safety standards and better emergency health care.

Perhaps the most unexpected finding was the relatively low suicide rate among officers — 14 per 100,000, compared with 29 per 100,000 in the general population. However, of those officers who killed themselves, more than 75 percent shot themselves with their service revolvers. In light of this, Stenning suggests the re-examination of policies that allow officers to carry their guns at all times.

Stenning, who expects to publish the results of his study this summer, believes the findings provide food for thought in many areas. For example, if more powerful

guns are not the answer to reducing the number of police deaths, should police consider other methods such as better community policing efforts? And since most motor vehicle accident deaths of officers occur when they are off duty, can departments promote better driving after work hours?

"What I hope the study will do is inform both the police and the public a little more about the nature of police work," he notes.



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ELM AID

Researchers at U of T look for strategies in the war against Dutch elm disease

BY ALFRED HOLDEN

IN SUMMERTIME, SASKATOON RISES FROM THE HOT prairie like an oasis, its city limits marked by a cooling canopy of trees. This view surprises visitors expecting yellow wheat fields and skies reaching from horizon to horizon. Heading downtown or into one of the city's older neighbourhoods, visitors get another surprise: elm trees form the green roof above them.

Dutch elm disease has destroyed millions of shade trees in the east. But Saskatoon's streets are still lined with American elms. Each summer urban avenues on the Prairies are turned into cool, cathedral-like passageways, under the vase-shaped native tree whose demise in most of North America ranks among the great environmental catastrophes of the industrialized era.

Saskatoon is not so much an anomaly as it is the end of the line. Dutch elm disease was first identified in Europe (hence the name) and was introduced by accident to North America around 1930, probably in shipments of contaminated wood.

The fungus appeared in Canada at Sorel, Quebec, in 1945. But it has taken decades to literally march, on the feet of elm bark beetles that spread its spores, from the eastern seaboard to the northwestern limits of the elm's habitat—Manitoba, Saskatchewan and Alberta.

Decades after the elm was given up for lost in eastern Canada, the species may have a fighting chance in the west. Ironically, the ray of hope comes from research being done where the graceful trees are pretty scarce these days—the St. George campus of the University of Toronto. For more than 20 years Professor Martin Hubbes of the Faculty of Forestry, his graduate students and collaborators, including Professor Paul Horgen of the Department of Botany, have been working on a biological means of controlling the virulent fungus that clogs the trees' vessels and causes them to wilt and die.

And in what may be the nick of time for western Canada, their work is starting to pay off.

bring treatment wherever the bark beetles go, and at low cost.

"Whether we will be successful we will see in the next few years," Hubbes said earlier this month, just before heading to Saskatoon to a community forestry conference where he outlined his strategy. The next step is field testing this summer and Hubbes is optimistic. "Today, with molecular biology, we think we have a chance against Dutch elm disease."

IN CONJUNCTION WITH HIS RESEARCH AT U OF T, HUBBES has been working with municipal and provincial officials and citizen groups in Manitoba, Saskatchewan and Alberta. In a harsh climate where the choice of other species is limited, a lot is at stake in the survival of the elm.

carrying beetles, chemical injections of individual trees to protect against the fungus itself and prompt removal of dead and diseased elms have kept death rates low.

However, these treatments require costly, ongoing treatment programs and ultimately keep Dutch elm disease only at bay, says Allen. In themselves the chemicals and processes used can cause environmental degradation and sometimes damage the trees. On the other hand, if the potency of the disease can be naturally reduced, and the trees' resistance built up, then elms will have a real chance, Allen says.

"A lot of people in this city have pinned a lot of hope on research at the University of Toronto," Allen said in an interview. He believes the elm's survival is especially important to central Winnipeg where street after street of them have helped stem the exodus to the suburbs "because of the livability criteria." Their

high branches create soft light over streets and have an air conditioning effect, besides being high on "psychological comfort," he said. "This part of the city is in fact a very nice area because of the elms."

"Winnipeggers feel very strongly about them," says Judy Werier, founder of the city's Coalition to Save the Elms, a citizens' group that closely watches the work of Hubbes and U of T. The coalition successfully lobbied the city and provincial government—right up to Premier Gary Filmon—to continue funding the U of T research. Hubbes, whose lab is the only one in North America working on biological control for Dutch elm disease, is making do with \$75,000 in support from the Manitoba government, the City of Winnipeg, the Canadian Forestry Service and the elm coalition.

As often happens with research, finding funding has become part of the battle. After the disease swept through the east, people tended to write off the elm as a hopeless cause and it became a low priority, Hubbes said.

However, Hubbes points out, it can cost hundreds of dollars just to cut one elm down when it dies. When you're dealing with tens of millions of trees, as the western provinces are, the notion of an ounce of prevention takes on clout.

SIGNIFICANTLY, THE RESEARCHERS AT U of T have isolated the gene that produces the substance that causes the trees to wilt. Although it turned out to be a minor player in the process of the disease, the gene yielded genetic material that provides the basis for a vaccine to trigger the elm's natural immune system. This helps the tree fight off infection on its own. Hubbes hopes the vaccine will be ready in three or four years.

U of T researchers have also found that the virulence, or strength, of the fungus can be reduced by interbreeding different strains. By developing weaker strains and introducing them to infected areas, they hope to breed out the deadly fungus in favour of others the trees can live with. To avoid encouraging the fungus's evolution into a still more stubborn and virulent form, they will not try to eliminate it entirely or build total resistance into elms.

Weak strains of the fungus, when introduced into elm trees, have also been found to make the tree produce potent phytoalexins. These protection mechanisms are also capable of warding off the fungus. Further study is required, but this discovery means that if the trees can be induced to produce phytoalexins against the harmful fungi, elms will have another level of protection.

Finally, rather than rely on costly individual treatment of trees, U of T researchers have developed a strategy to turn the villain into the saviour by using the bark beetles that normally spread the deadly fungal strains to carry the weak varieties. This could

One estimate places the number of elms in Saskatoon at 53,000, or nearly 60 percent of the city's tree cover. Brandon, Regina, Calgary and Edmonton also have large stands and elms are the chief shade tree in many prairie towns. Winnipeg's city forester, U of T forestry graduate Michael Allen, estimates his city has 200,000 American elms.

Winnipeg has already demonstrated that research has made inroads against Dutch elm disease, which struck the city in 1975. Conventional treatment with pesticides to ward off the spore-

THE CASE IS BEING MADE THAT SAVING THE trees makes financial sense in other tangible ways. Manitoba's forestry branch has developed a complex formula assigning dollar value to trees, based on their contribution to the quality of business and residential districts and parks. At an assigned average of \$3,600 apiece, the total value of urban trees in Winnipeg and other Manitoba towns and cities was placed at \$1.1 billion. Another study estimates that urban properties are worth 10 to 15 percent more with than without trees. One forestry branch report to Manitoba Natural Resources warns ominously that major elm losses would result in "a decline in real estate values and a near complete loss of the urban forests in many towns and cities."

Eerily the warnings echo those of an earlier time. In 1933, shortly after Dutch elm disease was found in North America, several US states asked President Franklin Roosevelt to declare a national emergency when scientists predicted the disease would destroy millions of shade trees.

Despite that era's frantic efforts to find a cure, the prediction came true, dramatically changing both urban and rural landscapes. Has the elusive answer finally been found at U of T, and will it be put to work in time to save the elms of western Canada?



*The top picture shows Noble Ave. in Winnipeg as it looks today, lined with elm trees.
The bottom picture shows Noble Ave. as it would look without elms.*

EVENTS



LECTURES

Cognitive Robotics

TUESDAY, MARCH 29

Prof. Ray Reiter, Department of Computer Science. 1105 Sandford Fleming Building. 11 a.m. *Computer Science and ITRC*

The Ambiguous Impact of Climate Change at a Desert Fringe.

WEDNESDAY, MARCH 30

Prof. Aaron Yair, Hebrew University; Snider lecture. Scarborough College. 4 p.m.

The Status of Women and Women's Studies in Contemporary China.

WEDNESDAY, MARCH 30

Prof. Li Xiaojiang, Zhengzhou University. 4-411 Ontario Institute for Studies in Education, 252 Bloor St. W. 7:30 to 9:30 p.m. *Sociology, OISE, Asian Pacific Studies and Canadian Research Institute for the Advancement of Women*

Rome's Spice Trade with the East: The Egyptian Connection.

WEDNESDAY, MARCH 30

Prof. Steven Sidebotham, University of Delaware. Lecture room, McLaughlin Planetarium. 8 p.m. *Archaeological Institute of America, Toronto Society*

Using Computer Graphics to Support Calculus Teaching.

THURSDAY, MARCH 31

Prof. C.T.J. Dodson, Department of Chemical Engineering & Applied Chemistry. 1105 Sandford Fleming Building. 8:30 p.m. *CCH*

For the Eye or for the Mind? Multimedia and Education in Art History.

THURSDAY, APRIL 7

Prof. Jens Wollesen, Department of Fine Art. 54B Wetmore Hall, New College. 8:30 p.m. *CCH*

Culture of Dissidence in East and Central Europe.

FRIDAY, APRIL 8

Myrna Kostash, journalist. Room 506, 203 College St. 3 to 5 p.m. *Ethnic, Immigration & Pluralism Studies*

Coping Successfully with the Challenges of Aging.

FRIDAY, APRIL 8

Prof. Susan Whitbourne, University of Massachusetts. George Ignatieff Theatre, 15 Devonshire Place. 3 to 5 p.m. *Studies of Aging and Ulyssean Society*

Aspects of English Silver: Designs and Designers.

FRIDAY, APRIL 8

Christopher Hartop, Christie's New York. George Ignatieff Theatre, 15 Devonshire Place. 7:30 p.m. *Trinity*

Franco-Ontarian Women: Double Minority.

MONDAY, APRIL 11

Prof. Monica Heller, Ontario Institute for Studies in Education; Popular Feminism lecture and discussion series. Boardroom, 12th floor, Ontario Institute for Studies in Education. 8 p.m. *Women's Studies in Education, OISE*

COLLOQUIA

Imaging Technologies/Perceptual Reasoning.

WEDNESDAY, MARCH 30

Prof. Don Ihde, State University of New York at Stony Brook. 304 Victoria College. 4:10 p.m. *IHPST*

Catalysis of Organic Reactions Using Electron Deficient Metallocene Complexes.

THURSDAY, MARCH 31

Prof. Scott Collins, University of Waterloo. 158 Lash Miller Chemical Laboratories. 1 p.m. *Chemistry*

Working with Professor Michael J. Dignam.

FRIDAY, APRIL 8

Lynn C. Schumacher, Borges, Hill & Schumacher Patent Agents. 158 Lash Miller Chemical Laboratories. 3 p.m. *Chemistry*

SEMINARS

The Role of the Cell Cycle in Cell Type Determination during *Dicotyledon* Development.

TUESDAY, MARCH 29

Prof. Gerald Weeks, University of British Columbia. 417 C.H. Best Institute, 112 College St. 11 a.m. *BBDMR*

Strategic Choices for Unions: International Dilemmas.

TUESDAY, MARCH 29

Carla Lipsig-Mummé, York University; bag lunch discussion series. Room 205, 121 St. George St. 12:30 to 2 p.m. *Industrial Relations*

Transcription of Endogenous Pancreatic Cell Genes in Thymus: Implications for T Cell Tolerance to Transgenic Beta Cell Antigens.

WEDNESDAY, MARCH 30

Dr. Christine Jolicoeur, Clinical Research Institute of Montreal. 417 C.H. Best Institute, 112 College St. 4 p.m. *BBDMR*

Reflective Equilibrium in Practice: Implications for Methodological Debates in Bioethics.

WEDNESDAY, MARCH 30

Prof. Norman Daniels, Tufts University; Philosophical Perspectives on Bioethics series. Room 936, 215 Huron St. 4 to 5:30 p.m. *Bioethics and Philosophy*

The Indigenous Peoples of Alaska and the Russian Orthodox Church, 1794-1994.

THURSDAY, MARCH 31

Prof. Charles Lock, Centre for Russian & East European Studies. 14352 Robarts Library. 12 noon to 2 p.m. *CREES*

Free Radicals, Lou Gehrig's Disease and the Jungles of West New Guinea.

THURSDAY, MARCH 31

Prof. Donald McLachlan, Centre for Research in Neurodegenerative Diseases.

412 Rosebrugh Building. 1 p.m. *Biomedical Engineering*

The Rhetoric of the Holy Man: Self-Authorizing Argumentation by Philistratus' Apollonius and Luke's Jesus.

THURSDAY, MARCH 31

Common room, 123 St. George St. 2 p.m. *Study of Religion*

The Unified Theory of Evolution.

THURSDAY, MARCH 31

Prof. Dan Brooks, Department of Zoology, Mankind in Non-Linear Systems series. 211 Haultain Building. 3 p.m. *IES*

The "Gene Fund" in the Ukrainian Press: A Semiotic Analysis of Nationalism.

THURSDAY, MARCH 31

Anna Makolkin, Centre for Russian & East European Studies. Boardroom, Multicultural History Society, 43 Queen's Park Cres. E. 4 to 6 p.m. *Ukrainian Studies*

American Perceptions of the Canadian Health Care System, 1940-1990.

THURSDAY, MARCH 31

Robert Sullivan, University of Wisconsin; Hannah seminar for the history of medicine. Seminar room, 88 College St. 4 to 6 p.m.

Immortalized Neutral Progenitors for Gene Therapy, Repair and Insights into Development.

MONDAY, APRIL 4

Dr. Evan Snyder, Harvard Medical School; Human Genetics & Genome Research series. 4279 Medical Sciences Building. 4 p.m. *Molecular & Medical Genetics*

Morphogen Gradients in the Control of Limb and Body Patterning in *Drosophila*.

WEDNESDAY, APRIL 6

Dr. Gary Struhl, Howard Hughes Medical Institute. 114 C.H. Best Institute, 112 College St. 4 p.m. *BBDMR*

The Ukrainian Literature of Slovakia after 1945.

THURSDAY, APRIL 7

L'ubica Babotová, P.J. Safárik University, Presov, Slovakia. Boardroom, Multicultural History Society, 43 Queen's Park Cres. E. 4 to 6 p.m. *Ukrainian Studies*

The Polestar Project: Can We Plan a More Sustainable Future?

FRIDAY, APRIL 8

R.W. Shaw, Stockholm Environment Institute. 211 Haultain Building. 11 a.m. *IES*

Innovative Workplace Practices & CAMI: The GM Perspective.

MONDAY, APRIL 11

Jim Cameron, General Motors Canada; bag lunch discussion series. Room 205, 121 St. George St. 12:30 to 2 p.m. *Industrial Relations*

Molecular Characterization of the Microtubule-Based Motor Enzyme, Dynein.

MONDAY, APRIL 11

Dr. Michael Koonce, New York State Department of Health; Human Genetics & Genome Research series. 4279 Medical Sciences Building. 4 p.m. *Molecular & Medical Genetics*

Reconstituting Social Meaning in the 1990s.

MONDAY, APRIL 11

SGS/Massey College symposium. Auditorium, Ontario Institute for Studies in Education, 252 Bloor St. W. 8 p.m.

Featuring recent graduates. Erika Raum, violin; Leslie Dala and Stephen Clarke, duo piano; and Barbara Hannigan, soprano. Walter Hall. 8 p.m. Tickets \$10, students and seniors \$5.

TRINITY COLLEGE

Choral Evensong.

WEDNESDAYS, MARCH 30

AND APRIL 6

Trinity College Chapel Choir; Robert Bell, director. Trinity College Chapel. 5:30 p.m.

Maundy Thursday Rite.

THURSDAY, MARCH 31

Trinity College Chapel Choir; Robert Bell, director. Trinity College Chapel. 5:10 p.m.

Good Friday Rite.

FRIDAY, APRIL 1

Trinity College Chapel Choir; Robert Bell, director. Trinity College Chapel. 9:30 a.m.

The Great Vigil of Easter.

SATURDAY, APRIL 2

Trinity College Chapel Choir; Robert Bell, director. Trinity College Chapel. 10:30 p.m.

SCARBOROUGH COLLEGE

Sunday Serenade.

SUNDAY, APRIL 10

Scarborough Campus Chorus & Band; annual spring concert. Meeting Place. 3 p.m.

VICTORIA COLLEGE

Trojan Women.

SUNDAY, APRIL 10 AND MONDAY, APRIL 11

A chamber opera in one act; music by Bruce Nicol, text of Euripides by Gwendolyn MacEwen. Victoria College Chapel. 8 p.m.

PLAYS & READINGS

The Dwarfs.

MONDAY, MARCH 28 TO WEDNESDAY, MARCH 30

By Harold Pinter; directed by Colette Stoerber. Graduate Department for Study of Drama production. Robert Gill Theatre, Koffler Student Services Centre. 8 p.m.

EXHIBITIONS

SCARBOROUGH COLLEGE

Juried Student Show.

TO MARCH 30

Student work.

Graduating Student Exhibition.

APRIL 4 TO APRIL 22

Graduating student work. The Gallery. Gallery hours: Monday to Friday, 11 a.m. to 4 p.m.

ROBARTS LIBRARY

Romanian Art & Culture 1994.

TO MARCH 30

A variety of arts and crafts from present-day Romania. Main Display Area.

EVENTS

Our Türkiye.

To APRIL 30

Photographs taken by Middle East & Islamic Studies students while touring Turkey. 1st floor atrium to March 31; from April 4, Main Display Area. Hours: Monday to Friday, 8:30 a.m. to 12 midnight; Saturday, 9 a.m. to 10 p.m.; Sunday, 1 to 10 p.m.

SCHOOL OF ARCHITECTURE & LANDSCAPE ARCHITECTURE

Student Work 2.

To MARCH 31

Work of architecture students.

Oakville Parks & Open Space Competition.

APRIL 4 TO APRIL 15

Winning and finalist design submissions from the 1993 two-stage design competition. The Gallery, 230 College St. Gallery hours: Monday to Friday, 9 a.m. to 5 p.m.

THOMAS FISHER RARE BOOK LIBRARY

Fiat Lux: Medieval Manuscripts and Early Printed Books in the Thomas Fisher Rare Book Library.

To MARCH 31

A survey of some of the intellectual activity of the Middle Ages through contemporary texts. Hours: Monday to Friday, 9 a.m. to 5 p.m.

JUSTINA M. BARNICKE GALLERY HART HOUSE Art Competition.

To APRIL 7

Students and Hart House members. Both Galleries. Gallery hours: Monday to Friday, 11 a.m. to 7 p.m.; Saturday and Sunday, 1 to 4 p.m.



MISCELLANY

Workshop on Balkan Relations.

MONDAY, MARCH 28

Two lectures: The Politics of National Identity, Prof. Bogdan Denitch, City University of New York; and The Transition to Democracy and Market Economy in Eastern Europe, Prof. Milos Nikolic, University of Novi Sad. Croft Chapter House. 2 p.m. CREEs

Record Sale.

WEDNESDAY, APRIL 6

LPs, cassettes, CDs, books and scores. Lobby, Edward Johnson Building. 11 a.m. to 5 p.m. Special pre-sale (admission \$5), Monday, April 4, Music Library, 4:30 to 7 p.m.

Christie's Appraisal Day.

SATURDAY, APRIL 9

Four of Christie's international specialists will do verbal appraisals of paintings, sculpture, jewellery, silver, porcelain, furniture and decorative arts. Strachan Hall, Trinity College. 10 a.m. to 4 p.m. Appraisals \$15 per item. Information: 978-2551.

DEADLINES

Issue of April 11, for events taking place April 11 to 25: MONDAY, MARCH 28.

Issue of April 25, for events taking place April 25 to May 9: MONDAY, APRIL 11

Software and Bibliography



Friday, May 6, 1994

Instructor: Sandra Alston

Continuing Education Workshop

Faculty of Library and Information Science

University of Toronto

Fee: \$185 (\$220 after April 22)

An overview of bibliographical software of special interest to researchers, bibliographers, librarians, authors, archivists, and other scholars: Papyrus, Library Master, EndNotePlus, and Pro-Cite. An opportunity to evaluate the software through demonstrations and hands-on experience.

For registration/information contact Marcia Chen, Ph. 978-7111, FAX 971-1399 or e-mail chen@flis.utoronto.ca

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New Assignments and Renewals of Carrels and Book Lockers in the Robarts Library

Summer Session 1993/94

Applications for carrels and book lockers for faculty members and graduate students (Division 1 & 2) for the Fall Session will be accepted April 11 to April 29. Application forms and information sheets are available at the Loan Services Desk, 1st floor and Patron Services Desk, 4th Floor, Roberts Library.

As in the past, assignments for graduate students will be made on the basis of priorities which have been decided by the School of Graduate Studies in consultation with the Library.

Assignments are expected to begin on May 10, 1994.

For further information, ask at the Carrel Office, 4th floor, Robarts Library or telephone 978-2305.

DOCTOR REQUIRED



Available 1308 sq. ft. store front in a high traffic neighbourhood plaza in Brampton. Excellent opportunity as some leaseholds are already done. Anchors include Shoppers Drug Mart, I.G.A., Bank of Nova Scotia and Pizza Pizza. High density population consisting of young families and the elderly. Call Andy Andersen, Associate Broker 905-450-8600. The Landex Corporation.



Awards Excellence

U T A A

The University of Toronto Alumni Association is pleased to announce the winners of the 1994 Awards of Excellence. Please join us to celebrate their achievements at the

1994 Awards of Excellence Dinner

Wednesday, April 6, 1994

at Hart House

Reception: East Common Room, 6 p.m.

Dinner: The Great Hall, 7:15 p.m.

Dr. Harvey Anderson, Faculty of Medicine
Department of Nutritional Sciences

Faculty Award

*

Dr. E. Claire Alleyne, Faculty of Education
Chancellor's Award

*

Professor John Kirkness
Office of the Vice-President and Provost
Joan E. Foley Quality of Student Experience Award

*

Stephanie Sophia Reibetanz, Victoria College
Nicole Meredith Nolan, Victoria College
John H. Moss Scholars



Harvey Anderson, left, Claire Alleyne and John Kirkness



Stephanie Reibetanz, left, and Nicole Nolan

Tickets: \$50 per person; students, \$35

Business Attire

For ticket information, please call 978-4258 or 978-6536



A Flourish of Brass

Friday, April 8, 1994 at 8 pm

Trinity-St. Paul's United Church
427 Bloor St. West, Toronto

Two of Canada's leading early music ensembles, The Toronto Consort and brass group Les Sonneurs of Montreal, join forces to present a programme including German Renaissance music and the world premiere of a piece by Canadian composer David Keane with a libretto by Melba Cuddy.

Call 966-1045 to order tickets!

Prices range from \$15 to \$20 or
\$12 to \$17 for students and seniors.

We would like to thank the Ministry of Culture, Tourism and Recreation and the Government of Québec for assistance through the Ontario Québec Cultural Exchange Programme for this concert.



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**UofT
Bookstore**



Annual General Meeting

The annual meeting of the University of Toronto Faculty Association will be held on Thursday, April 14, 1994, from 4:00 to 6:00 p.m. in the auditorium, room 2158, of the Medical Sciences Building at 1 King's College Circle



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BOOKS



The following are books by U of T staff. Where there is multiple authorship or editorship, staff are indicated by an asterisk.

March

America's Right Turn: From Nixon to Bush, by William C. Berman (Johns Hopkins University Press; 192 pages; \$38.95 US cloth, \$12.95 US paper). The decline of New Deal liberalism and the resurgence of Republican conservatism that began with the 1968 election of Richard Nixon culminated in the 1980s in the presidencies of Ronald Reagan and George Bush. This book examines the political, cultural and economic context in which Republican conservatives operated and explores the crisis of the liberal welfare state against the background of presidential politics.

Taking Life Seriously: A Study of the Argument of the *Nicomachean Ethics*, by Francis Sparshott (University of Toronto Press; 479 pages; \$60). By explaining Aristotle's *Nicomachean Ethics* as a single continuous argument, a chain of reasoned exposition on the prob-

lems of human life, this book makes sense of *Nicomachean Ethics* in its entirety rather than as a compilation of relatively independent essays.

Dictionary of Canadian Biography: Volume XIII, 1901-1910, Ramsay Cook, general editor (University of Toronto Press; 1,316 pages; \$85). This volume documents the lives of noteworthy Canadians who died between 1901 and 1910.

Catching up

Boundaries of the City: The Architecture of Western Urbanism, by Alan Waterhouse (University of Toronto Press; 365 pages; \$75). This study draws on anthropology, social and cultural history, literature and philosophy to reach an understanding of the roots of western architecture and city building. It explores the illusion that cities are constructed to impose rational order, an order articulated through urban boundaries. In tracing the narrative of urban boundaries from antiquity to the birth of modernism, some stubborn legacies that bind contemporary urban design to the past are discovered.

JAPAN — POSITION IN CANADIAN STUDIES

Kwansei Gakuin University in Nishinomiya, Japan, seeks Visiting Professors of Canadian Studies for the periods **April 1995 to July 1995**, and **September 1995 to July 1996**. Responsibilities include teaching (in English, French or Japanese) courses on contemporary Canada. Qualifications include Canadian citizenship or landed immigrant status and appointment as a member of the faculty of the University of Toronto. Fields of teaching: anthropology, art, business administration, economics, education, geography, history, literature, philosophy, political science, psychology, public administration, social welfare, sociology. Travel costs and furnished accommodation will be provided in addition to salary based on level of professorial rank. Deadline for application: May 16, 1994. For more details please call Professor K.R. Thompson, Registrar, Victoria College, 585-4405.

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ACCOMMODATION RENTALS AVAILABLE — METRO & AREA —

Very private, quiet, partially (or un) furnished and equipped 2-bedroom apartment in attractive Victorian house. Upper duplex on two floors, 1½ baths, 5 appliances. Brunswick/Sussex (a safe neighbourhood), minutes walk to campus. Pet/child welcome. Non-smokers. Available April 1 for flexible period up to 3 years. \$1,385/month + electricity (negotiable). 964-7270.

High Park. 1-bedroom apartment for April 1 — September 30 period. Furnished, all amenities (phone, cable TV, balcony, TTC at door, etc.) \$690 monthly (all included). Tel. 604-7410.

Sabbatical rental; High Park area. Large detached house, 3 bedrooms, 2 studies, 2 bathrooms, fully furnished and equipped, garden. Close to subway, good schools, park. September through April. \$1,500 p.m. plus utilities. 585-4431 (U of T), 762-9165.

Bathurst/Dundas, open-concept 2-bedroom duplex on 2 levels with 1½ bathrooms, deck, skylights, fireplace, 4 appliances. Walk to U of T. Academic landlord. May 15 or June 1. \$1,120+. 923-4236.

Attractive one-bedroom apartment, completely furnished; ground floor, fireplace. Markham Street, College & Bathurst. Available end of April. Suitable for short- or long-term rental. \$1,000 per month. Call 966-2455.

Sabbatical housing available from mid-August/94 to mid-August/95. Large, well-appointed, attractively furnished, main-floor duplex apartment on Avenue Rd., just north of UCC, close to Eglinton Ave. shopping, services. Seven rooms: living, dining, kitchen, large sitting, two studies, bedroom (can become 2 or 3 bedrooms), two bathrooms, air-conditioned, off-street parking, near Avenue Rd. bus. \$1,575 plus partial utilities. Please call 322-3257 and leave message.

Luxury furnished home, spectacular renovation. 4 bedrooms, 3½ baths, library, spacious family room, fireplaces, south decks, large yard, air conditioning. Central location, Brown School, 5 min. to subway. Sept. 1994 — Aug. 1995. \$1,900/month plus utilities. 964-0975.

Sabbatical rental available mid-August (or January 1995) to mid-August 1995. Bloor/Bathurst. One-bedroom, 15 minutes to U of T, 3 minutes from subway. Quiet, deck, wood floors, furnished or unfurnished. \$850 inclusive. (416) 588-2159.

Charming house, garden, very quiet. North Toronto, 4 bedrooms. \$1,000 per month for May, June, July — possibly longer. Newly decorated, deck-patio. Fenced yard, green belt, lovely. 445-6503.

Ideal sabbatical visitor. Spacious two-bedroom, two-bathroom en suite condominium. Fully furnished. 6 appliances; air condition; balcony; swimming pool; parking. Super central location. Subway 10 mins. from U of T. Opposite park; TTC; shops. \$1,500 inclusive. 787-8464.

Sabbatical rental. Furnished 3-bedroom house in St. Clair/Spadina Road area for Aug. 1-Dec. 31, 1994. Eat-in kitchen, den with fireplace, backyard deck. Close to TTC, shopping, school, yet on very quiet residential street. \$1,900 plus utilities. For more information call (416) 323-0692 after 6:00 p.m.

Yonge/St. Clair, charming house, master suite with bath and walk-out, large office, bedroom with bath, all appliances, parking, furnished. Available mid-April to mid-June or end June. \$1,000/month plus utilities. Clifford at 487-5247.

Summer rental at the Beach. Spacious Victorian house, furnished, all appliances, 3 bedrooms, 1½ bathrooms, fireplaces, decks, garden, garage. Steps to boardwalk, TTC, library, shops. Non-smokers preferred. Available June through September. \$1,650 inclusive. 699-6679.

Beach area house for rent. Detached, fully furnished, 3 bedrooms, fireplace, deck, garden, newly renovated kitchen, garage, close to primary school, 5-minute walk to streetcar, 5-minute drive to subway. Non-smokers. \$1,200/month + utilities. Available from August 1994, for 1 year. 691-1670 (evenings), 287-7397 (days).

High Park. Furnished 3-bedroom home, study, recreation room, fireplace, secluded garden, garage, 5 min. to subway, 15 min. U of T, close to schools and shopping. Available May '94 — August '95. \$1,675 + utilities. 766-0845.

Fully furnished, 3-bedroom house available July 1 for 1 year. Midtown Toronto, steps to TTC, parks and ravine. Large deck, parking and yard. Children welcome. No smokers. No pets. \$1,500/month plus utilities. (416) 656-2212.

House, short-term sublet July-August 1994. Beach, furnished, 2-car garage parking, 5 bedrooms, 2 bathrooms, 5 appliances, deck, landscaped yard, finished basement, close to all amenities. Price negotiable. Jim at 396-2335 or 699-5477 (evenings).

Rouge Valley, short drive to Scarborough campus. Large house, private, 1-acre wooded lot with view over Zoo valley. 4 bedrooms, 2½ bathrooms, air conditioning, appliances. 2 large decks, large garage, log shed. \$1,360 + utilities. Call 283-7353.

Walk to U of T, subway, shops. One-bedroom apartment, entire second floor of townhouse. Use of garden. One person or couple. For summer or longer; \$640/month during summer; \$680/month during school year. Utilities included. May 1. Jorg, 531-8651.

May 1. On quiet ravine cul-de-sac. St. Clair/Yonge. Bright, one-bedroom, second-floor, self-contained flat, suitable for one. \$750 inclusive, permit parking. 485-0262.

House for rent, professor going on sabbatical, available mid-August 1994 — June 1995. 4-bedroom in Willowdale, 10-minute walk to subway. Furnished or unfurnished. Huge lot, great family home. Call 226-4148 or 978-4642.

ACCOMMODATION RENTALS REQUIRED

Have house? Will sit. Responsible, experienced woman. Available May-September. Excellent references. Call (212) 397-8109 OR (416) 967-5693.

Going on sabbatical? 2 responsible & mature Queen's grads will pay reasonable rent & look after house/pets. Available May 1 on. References available upon request. Call Jill (613) 548-1298.

For June 1. Detached home in rural setting. Modernized, heritage type preferred. Northeast area above Metro. Garden/trees. Fireplace. Prefer two-year lease. Call (905) 477-7082.

June 1994 — July 1995. Physician and wife seeking 2-bedroom or larger apartment/house within short subway ride to University. Prefer full-service building. Parking. Will be in Toronto April 21, 1994. (718) 698-6966.

Sabbatical rental mid-August to mid-December 1994 for a Senior Distinguished Visitor at Osgoode Hall Law School. Fully furnished, two-bedroom apartment, condo or house. Preference for the Yonge and Eglinton area. Please call Penny Spence at 736-5583.

We are a professional non-smoking married couple available for housesitting. We have experience with plants & pets. We will be residing overseas in the future thus our desire to housesit. Excellent references. 962-8567.

Looking for a house to rent. Professor visiting from Germany would need a furnished house to rent from August 1 through 20 (dates negotiable). Call 484-9304 or 978-4243.

ACCOMMODATION SHARED

Danforth and Broadview. Fully renovated house to share. Ideal for visiting professor or doctoral student. TTC 15 minutes to U of T. Entire third floor: 2 furnished rooms, skylights, minibar, air cond., \$500. Also 9x12 furnished bedroom/office with private deck over backyard, \$350. All appliances, fireplace, yard. Street parking. Non-smoking, pet-free, organized, quiet. Includes maid/utilities. Call Ken Shepard, Ph.D. 463-0423.

St. Clair/Spadina. 1,200 sq. ft. apartment in low-rise building. Completely furnished, wonderful condition. Seeking mature, quiet female to share with same. Non-smoker preferred. Walk to subway. Nice backyard. 1 block to shopping. Available April 25/94 for 6 months. Move-in date negotiable. \$550/month, utilities included. 486-3778.

Large bedsitting room, own 3pc. washroom, in comfortable modernised house, upper Annex. Shared with owner/professional. Laundry, garden, whirlpool. Mature grad preferred. Non-smokers please! \$475+. Available May 1. 537-9284 (evening/weekend) after April 5.

High Park 2-storey garden home, at Bloor subway station. Furnished 2-bedroom, outdoor pool, 24-hour security, laundry en suite, air-conditioned, equipped. Quiet Quebec Avenue. Non-smoking, bright, clean. \$450 beginning May. Parking. (416) 761-9671.

ACCOMMODATION OVERSEAS

London House, London England. Spring/summer accommodation in University of Guelph's London House. Rooms or flats, full housekeeping privileges. Minimum four nights — reasonable rates. Smoke-free environment. Ideal for academic/tourist travellers. Inquiries: Ph. (519) 856-4412, fax (519) 856-4087.

London, England: 2-bedroom apartment in pleasant area of N. London to rent April 1994. Fully furnished, modern kitchen, gas central heating, appliances and washing machine. 25 minutes to U of London. Ideal for sabbatical year. Contact J. Calvert, 2576 Pandora St., Vancouver, B.C. V5K 1V8. Tel. (604) 255-6601.

London. Bright, quiet, central, 2-bedroom apartment, 5 minutes' walk from British Museum or University of London library, available August/September 1994 to December 1994 or June 1995. \$1,600 p.m. + utilities. Phone Prof. Jackson, 585-4457 or 929-0538.

Tuscan farmhouse in rolling hill country — olives, vineyards, chestnuts — close to Montepulciano, Pienza, Montalcino, Siena & the Brunello wine district. Top flat sleeps 5, lower 6-8. Excellent rates. Available spring, summer, autumn. Tel: 323-0219.

Brittany, 17C. manoir. Beautiful, secluded, 20 min. beaches, 5 min. town. Main: 3-bedrooms, dining-room, music room, 2 bathrooms. Wing: self-contained apartment. Photos available. Summer \$5,000/month (two-week minimum). Also sabbatical. (416) 694-9295.

Paris-Montmartre. Beautiful, spacious, two-bedroom, furnished apartment (six major appliances). Luxury bathroom. Sunny, quiet, newly renovated. Large garden, digicode, excellent shopping/transportation (25 minutes from Louvre). No pets, smoking. \$2,000 monthly (May-August). 978-4882.

'A Year in Provence'. Spacious two-level, two-bedroom, terrace cottage in unspoilt Provençal village. Modernized. Long-term let \$550/month. For short let & details call D. Hardwick, tel. (416) 516-4270.

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VACATION / LEISURE

Rent last week June to September 30, century fieldstone farmhouse, fully furnished and equipped. Near Orangeville. Four bedrooms. 100 hilly acres, swamp and streams. \$1,000 per month + utilities. Michael Joy, 978-6538.

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Muskoka, summer cottage, 4 bedrooms, 1½ bathrooms, very private, lakefront, good facilities, canoe, BBQ, 10 miles south of Parry Sound. Available June, July, August. Non-smoking, no pets. \$800 weekly, reduction for longer period. (416) 922-7386.

HOUSES & PROPERTIES FOR SALE

Home for sale by UT Prof. Beautiful, quiet, forested neighbourhood, Port Credit.

Spacious 3-bedroom, 2-bath brick bungalow on large treed lot, stream in front. Fireplace, built-in garage. Easy 20' drive to UT campus. Near GO station, schools, shopping. SW exposure. \$284,500. Call (905) 274-4384 after April 2.

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Psychologist providing individual, group and couple therapy. Personal and relationship issues. U of T extended health plan covers psychological services. For a consultation call Dr. Heather A. White, 535-9432, 140 Albany Ave. (Bathurst/Bloor).

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Victoria B.C. Real Estate. Experienced, knowledgeable realtor with university faculty references. Will answer all queries and send information about retirement or investment properties in Victoria. No cost or obligation. Call (604) 595-3200 or write Lois Dutton, RE/MAX Ports West, 3200 Shelbourne Street, Victoria, B.C. V8P 5G8.

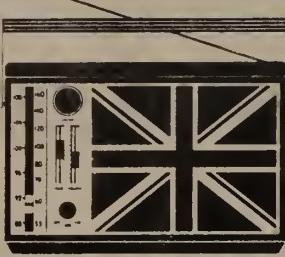
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SEEKING POSITION: "A" student, reads French, German & Latin, entering grad school in Medieval History next September, seeks to work for professor this summer researching, indexing, compiling, etc. Gordon Coleman, 978-2517.

JOLLY GOOD NEWS



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Charlotte di Pere (Layers of Soaked Sponge Filled with Pear Mousse & Chocolate Mousse, Rounded with Savoy Biscuits)
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Tartufo Royale Semifreddo (Raspberry Filled Tartufo with White & Dark Chocolate Sauce)

Please call 978-2445 for more information and reservations.

Faculty of Forestry Research Seminar Series

Friday, Apr. 8
"Biological Control Of Forest Insect Pests"
Dr. Barry Bai
2:00-3:00 pm., Rm. 213, Koffler Inst., 569 Spadina Ave.
The egg parasitoid, *Trichogramma minutum*, has been examined as a biological control agent against forest insect pests, particularly spruce budworm. Experiments have shown potentials of the parasitoid to control spruce budworm in Ontario.

Friday, Apr. 15
"Environmental Impacts Of Pressure Treated Wood Use"
Dr. Paul Cooper

2:00-3:00 pm., Rm. 113, Koffler Inst., 569 Spadina Ave.
Pressure treated wood use has increased considerably. Both users and regulators of treated wood are concerned about potential environmental contamination. Minimizing contamination, and reusing and recycling of treated wood removed from service are discussed.

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Enquires should be directed to Tom Nippak 978-7447.

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RESEARCH NOTICES

For further information and application forms for the following agencies, please contact University of Toronto Research Services (UTRS) at 978-2163.

GENERAL

BEST NORTH AMERICA

During the next month or so, UTRS will be using U of T records currently in the BEST database and new records collected for this purpose to create a U of T directory of biotechnology researchers. Biotechnology researchers who are not already (or are not sure if they are) in the BEST database are encouraged to contact Monique McNaughton at 978-7833 or monique@rs.rir.utoronto.ca.

MEDICINE & LIFE SCIENCES

CANADIAN LIVER FOUNDATION

The bridging operating grant is offered to young investigators who are trying to initiate their independent research careers and those established investigators who are in jeopardy of losing financial support for ongoing projects. In both cases research should be of high quality and clearly pertaining to hepatic physiology or pathophysiology. Independent investigators who have received notification that in the last MRC competition they were unable to obtain their first MRC operating grant or their operating grant was not renewed, despite an acceptable evaluation, are eligible. Grants may be used to purchase materials, supplies and items of equipment costing less than \$5,000, animals and maintenance and to support travel costs to a limit of \$1,000.

Trainees salaries or major equipment purchases are not eligible. Substantial changes in format and content have been made to the application form and submissions on outdated application forms will not be accepted. Deadline is May 15.

SANDOZ FOUNDATION FOR GERONTOLOGICAL RESEARCH

The foundation supports innovative

scientific research projects in the biological sciences, pharmacology and specifically geriatric medicine concerned with aging and the problems of the aging individual. Funding will be to a maximum of \$35,000 US for one year. The agency permits an overhead component of 15 percent of direct costs and U of T investigators are reminded to include the full amount in their budget allocations. Deadline is May 1.

ONTARIO MINISTRY OF HEALTH

Investigators are advised that OMH has not yet confirmed the next competition deadline for the health care systems research programs. The program is still under review and any announcement regarding a spring competition will be made two months before the submission deadline.

WHITAKER FOUNDATION

The foundation invites applications from biomedical investigators who are relatively early in the research careers and whose medical research projects substantially involve the innovative use of engineering techniques or principles. Initial application is by submission of a preliminary proposal and full applications will be invited from those deemed eligible. The usual University application and signature requirements apply. Deadline is May 1.

PHYSICAL SCIENCES & ENGINEERING

NATIONAL RESEARCH COUNCIL

NRC's women in engineering and science program is designed to encourage Canadian women to pursue careers in mathematics, physics or engineering. It gives students hands-on experience working in NRC laboratories. The program is open to women who are

Canadian citizens or permanent residents and are enrolled full-time in first-year engineering or the first year of a science program with intended specialization in mathematics (including computer science) or physics. Candidates must be nominated by their university. U of T has been asked to nominate three candidates in 1994. Applications and further information is available from Admissions & Awards, the engineering student services office, Division of Sciences — Erindale and the registrar's office — Scarborough. Deadline is April 29.

NATURAL SCIENCES & ENGINEERING RESEARCH COUNCIL OF CANADA

NSERC has prepared a two-page document on commonly asked questions concerning the collaborative project grants program. A copy of the document is being mailed to all researchers who submitted a letter of intent. Additional copies will be available at UTRS. Complete applications are due at NSERC on May 2.

UPCOMING DEADLINES

MARCH 31

Health & Welfare Canada/NHRDP — Canada's Drug Strategy
International Cystic Fibrosis — international research projects, scholarships, professorships
NATO — collaborative research grants
Shastri Indo-Canadian Institute — initiatives in sustainable development

APRIL 1

Association for the Advancement of Automotive Medicine — David R. Foust memorial fund
Atkinson Charitable Foundation — research grants
Canadian Cystic Fibrosis Foundation

— studentships, fellowships

Canadian Genome Analysis & Technology Program — research grants (letter of intent), major equipment, career development, travel grants, workshops/conferences/symposia
Canadian Heritage/Canadian Studies & Special Projects Directorate — Canadian studies learning materials
Cancer Research Foundation of America — fellowships
Cancer Research Institute (US) — fellowships

Wendy Will Case Cancer Fund — research grants

Hannah Institute — archives/museum studies medical history internship program, special grants (letter of intent)

Louis & Artur Lucian Award — nominations

MRC — studentships (renewal), fellowships (new and renewal), industrial studentships and fellowships,
MRC/Schizophrenia Society of Canada fellowships, MRC/NHRDP AIDS research post-doctoral fellowships, MRC groups (new and renewal preliminary proposal), program grants (new and renewal preliminary proposal), development program (phase 2)

National Neurofibromatosis Foundation Inc. (US) — research grants, young investigator awards
Parkinson Foundation of Canada — fellowships, research grants

SSHRC — international summer institutes (at UTRS), aid to occasional scholarly conferences in Canada, travel grants for international representation

APRIL 4

University of Southern California — Tyler prize for environmental achievement

APRIL 9

BAXTER CORPORATION — renal therapy division research grants

APRIL 15

J.P. Bickell Foundation — research grants (at UTRS)
James H. Cummings Foundation — research support (at UTRS)

Easter Seal Research Institute — fellowships, project grants, training grants

Miles/Canadian Red Cross Society — research grant (invited)
NSERC — strategic grants
Wildlife Toxicology Fund — research grants

APRIL 29

NRC — women in engineering and science program

Foreign Affairs & International Trade Canada — cooperative security competition program

March of Dimes Birth Defects Foundation — social and behavioral sciences research grants (letter of intent)
Multiculturalism & Citizenship Canada — Canadian ethnic studies program

Roche Institute — major research grants, graduate student research grants, research grants

MAY 1

National Institute for Chiropractic Research — research grants
National Institutes of Health (US) — AIDS research grants

Sandoz Foundation for Gerontological Research — research grants
Whitaker Foundation — preliminary proposals

MAY 2

NSERC — collaborative project grants
SSHRC — strengthening of specialized research collections

MAY 15

Canadian Liver Foundation — bridging operating grants

PHD ORALS

Graduate faculty please call the PhD examinations office at 978-5258 for information regarding time and location for these listings.

THURSDAY, MARCH 31

Srinivas Kandala,
Department of Electrical &
Computer Engineering,
"Multi-Sensor Multi-User
Detectors for CDMA Networks."
Profs. S. Pasupathy and
E.S. Sousa.

Lorraine Cindy Kryscak,
Department of Physics,
"Nonplanar and Nonlinear
Second Sound in Helium T."
Prof. G.M. Graham.

Patricia Rodney,
Department of Education,
"The Caribbean State, Health
Care and Women: Analysis of
Barbados and Grenada during the
1979-1983 Period."
Prof. G. Dei.

Colette Elaine Taylor,
Department of Mechanical
Engineering, "Random Excitation
Forces Acting on Tube Arrays
Subjected to Water and Air-Water
Cross Flow."
Prof. I.G. Currie.

Yuwu Wu,
Department of Linguistics,
"Mandarin Segmental Phonology."
Prof. K.D. Rice.

MONDAY, APRIL 4
Isabella Tsui-Wen Tai,
Department of Physiology,
"The Microencapsulation of Cells:
Immunological Isolation and
the Application in Somatic
Gene Therapy."
Prof. A.M. Sun.

THURSDAY, APRIL 7
Deborah Ingrid Fels,
Department of Industrial
Engineering, "Methods for
Evaluation of an Output Device
Independent Vocabulary for
Computer Feedback."
Profs. M.H. Chignell and
M. Milner.

FRIDAY, APRIL 8
Charles Andrew Hilken,
Centre for Medieval Studies,
"Monastic Remembrances of the
Dead: In the Shadows of Monte
Cassino and Santa Sofia di

Benevento. An Edition and Study
of the Necrology of
Santa Maria del Gualdo
Mazzocca." Profs. R.E. Reynolds
and V. Brown.

MONDAY, APRIL 11
Laverne G. Taylor Smith,
Department of Education,
"Power in Leadership:
A Case Study of a Chief Executive
Officer in Education."
Prof. E.S. Hickox.

TUESDAY, APRIL 12
Terence Edgar Hebert,
Department of Molecular &
Medical Genetics, "Structure-
Function Studies of Cloned
Rat Brain Voltage-Gated Sodium
Channels Expressed in
Xenopus Oocytes."
Prof. R. Dunn.

WEDNESDAY, APRIL 13
Cameron Ross Hetherington,
Department of Psychology,
"The Influence of Temporal
Structure on Attention."
Prof. D.T. Stuss.

COMMITTEES

The Bulletin regularly publishes the terms of reference and membership of committees. The deadline for submissions is Monday, two weeks prior to publication.

SEARCH

CALL FOR NOMINATIONS

In accordance with section 62 of the Perron Rules, Provost Adel Sedra has issued a call for nomination of individuals to serve on the search that will advise the president on the appointment of a new principal for Erindale College (Principal Desmond Morton has announced his acceptance of the post of director, Institute for the Study of Canada, McGill University, effective July 1). The composition of the committee as specified by the Perron Rules is as follows: the vice-

president and provost or representative (chair); three to five members of the teaching staff of the college and/or those who teach in the college's programs; one to three students of the college; the dean of the School of Graduate Studies or representative; two or three other qualified scholars from within or outside this university but outside the college; and a librarian, where appropriate. In addition, the committee may include an alumnus/a and one or two members of the administrative staff.

Nominations should be sent to Provost Adel Sedra as chair of the committee by April 8.

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FROM COLLECTION TO CONNECTION

The electronic age may change the face, but not the body, of academic libraries

BY CAROLE MOORE

THE EXPLOSION IN INFORMATION technology has done nothing to diminish the importance of academic research libraries. As we face an enormous increase of information, the access to and preservation of knowledge is more crucial than ever. However, libraries have to make some adjustments to meet the new opportunities and demands.

The change we face has been described as a shift from collection to connection. Clearly we are still at the initial stages of the present information technology transformation but enough thought and experimentation has taken place for us to plan how libraries might make the transition.

The University of Toronto Library is the largest research library in Canada. Some of its collections are unique in the country and some are unique in the world. As part of the international scholarly community one of the library's roles is to offer reasonable worldwide access to research collections. A local institution, however, cannot be expected to subsidize the rest of the world's access to it. In the past the best developed and most effective resource-sharing systems for library materials were based on funding support from provincial, state or national governments. On a global scale a free-market model may be more practical. Thus any institution, commercial or public, which can offer the best service delivery in terms of convenience, quality and cost, will provide the service.

This development is evident in the fields of scientific and business information. Large international document supply services provide articles by fax, photocopy or Internet delivery on an increasingly competitive basis. Both the service delivery and the prices are becoming more standardized. What differentiates the services is the content of their collections with individual suppliers developing their own specialties.

Current market rates for articles of 20 pages or less range from \$15 to \$30, depending on speed of delivery. Typically three levels of service are provided: responses within 48 hours, 24 hours and two hours. The New York Public Library reports that 80 percent of its requests are for the two-hour service even at the higher price. The largest service is the British Library Document Supply Centre, which received 3.4 million requests from all over the world last year. The centre aims to double its service delivery by 2002. By comparison U of T supplied 85,000 documents outside the library, over 65,000 of which were to our users in teaching hospitals. Local circulation for the same period was over six million items.

Large scientific publishers such as Elsevier also hope to capture a portion of this market. Because of the enormous volume of scientific information, there is good reason to believe that commercial and public mechanisms will develop simultaneously.

Meanwhile journals and other materials produced solely in electronic formats are now available. Last year the Association of Research Libraries had 240 electronic journals in its directory, up from 133 the previous year. In addition there were 1,152 academic discussion lists, up from 769. The number of CD Rom titles available from commercial publishers is doubling annually and is reported to be about 9,000 now. Many university presses are experimenting with new electronic multi-media packages (usually a combination of text, video, still pictures, graphs and sound tools) which they plan to offer via Internet. The American Physical Society recently concluded a three-year study which predicts that a complete, generally accessible, international electronic database of science is not only possible and desirable but probably inevitable by 2020.

Increasing availability of electronic journals is expected to expand the capability for rapid dissemination of new scholarship. Providing easy and equitable access for all students and faculty will remain an important function for academic libraries, however.

It is important to remember that much of the recorded knowledge is of little short-term economic value. Commercial organizations are unlikely to be interested in maintaining information indefinitely. However, ready access to knowledge is



a fundamental principle of democratic societies, and the public has a strong interest in supporting institutions that are committed to providing convenient and equitable access to information.

WHERE DOES THE UNIVERSITY OF TORONTO LIBRARY FIT IN this picture of the future? Many powerful forces affecting us are beyond our control, but there are opportunities which can help ensure that our library continues as one of the leading information resources in the world, one that draws faculty and students to the University because of its superior access to in-depth resources. We need to build on the current strengths of the library and on the rest of our academic community as we adapt to future needs.



MUCH RECORDED KNOWLEDGE
IS OF LITTLE SHORT-TERM
ECONOMIC VALUE

Over the last 100 years the University has built an extremely strong collection in the humanities and social sciences along with what is still perhaps the world's most complete electronic catalogue of a large collection — UTLink. Our collection in the sciences is also very strong, but not unique. Thus while it would be unwise for us to attempt to compete with the larger scientific centres, we are in a very strong position to offer unique services based on our humanities and social science print collections. Such services could be of added benefit to the University of Toronto as well as to the wider scholarly com-

munity. For example, new image scanning technology makes it feasible to produce high-quality copies of out-of-print books and journals for other institutions or individuals. In the process we would create a digital version and solve our serious problem of a disintegrating paper collection.

To avoid complete vulnerability to unreasonable price increases of outside suppliers of scientific and business information, we should explore cooperative arrangements with appropriate partner libraries. One of the most productive areas in which to test a new cooperative model might be a field in which academic departments are already planning collaboration. Several Ontario engineering faculties are currently working on collaborative programs, in manufacturing engineering, for example. Rationalizing library collections in this area with state-of-the-art delivery mechanisms would be an excellent demonstration project.

Another proposal for cooperation has been made by academic law libraries. Their proposal to provide speedy access to journals would benefit all participants. We should also take part in a pilot program sponsored by the American Association of Universities to make foreign language materials easily accessible through electronic means.

THE U OF T LIBRARY SHOULD BEGIN TO DEVELOP FULLY electronic databases in the areas where the University's research is strong. There are unlimited possibilities for other database initiatives but since we do not have access to the level of funding now becoming available for such purposes in the US, we need to be particularly careful that such databases are developed in response to clear user need and are cost-effective.

Two areas that may be suitable for pilot projects are Canadian studies and environmental studies. In both cases faculty, students and library staff have the required expertise and enthusiasm and databases in both areas will continue to be of long-term value for teaching and research purposes.

The Canadian studies database could encompass a number of disciplines and could initially include legal materials, maps and historical documents in the public domain. Archaeological data could also be included at an early stage. The documents and necessary digitization equipment is readily available in the library, but the computer storage facility and information retrieval system for access will have to be decided in consultation with representatives of the academic community and U of T Computing & Communications.

The database might also serve as a test bed for University researchers in information retrieval. There are currently some innovative systems being developed in the Faculty of Applied Science & Engineering. Collaboration with these researchers, both students and faculty, could clearly be as fruitful as the library's current research work with the Faculty of Library & Information Science.

Environmental studies is an area of widespread local and international interest. A group of leading researchers in the field at Scarborough College have already compiled a unique database of material on pollution. They would like to make it available to others and have proposed doing so through a new three-dimensional retrieval system. Outside funding is being sought to develop this system. Again, collaboration between faculty, their students and the library would be of great mutual benefit.

Do all these developments mean that we can throw away our books? Hardly. Despite rapidly growing use of electronic services, it seems clear that scholars will continue to need access to original materials and that for a resource library such as ours, use of the print collections will not decrease. It is more probable that by providing better access to materials for users, demand will continue to grow. Libraries connect us with our collective human memory and are here to stay.

Carole Moore is the University's chief librarian.